

THE ROLE OF PSYCHOLOGICAL CAPITAL IN PROTECTING THE PSYCHOLOGICAL WELL-BEING OF INDIVIDUALS WORKING IN CALL CENTRES

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DECLARATION

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ABSTRACT

Call centres play an important role in the growth of the South African economy. While the use of call centres offer companies numerous benefits, indications are that its success comes at the cost of individual psychological well-being (PWB). This is concerning as call centres are a prominent place of work for many South Africans. PWB is not only important for people, but it also forms a critical component of organisational sustainability and competitiveness. People with good PWB are better workers (more engaged and committed) and the absence of ill-health also saves companies a lot of money. A major redesign of the call centre job characteristics has been declared almost impossible. Therefore, gaining insight into how the individual and the work environment interacts to account for variance in individual PWB might provide fruitful research that can aid the development of human resource interventions to protect the PWB of individuals in call centres. The current study raises the question as to why variance in PWB exists among call centre workers. The research objective of this study is to develop and empirically test an explanatory model that accounts for variance in call operator PWB.

Drawing on the Positive Organisational Behaviour (POB) paradigm and Conservation of Resources (COR) theory, the present study explored the role of resources in how people overcome stressful situations and experience PWB. The call centre environment and its PWB-threatening work conditions were also explored. The study proposed a comprehensive *Psychological Well-being at Work (PWBW) in Call Centres* structural model which attempts to explain the nomological network of latent variables responsible for variance in call operator PWBW. Due to the small sample size, the study was not able to test the moderating effects of Psychological Capital (PsyCap) on the different stressors and the model had to be adapted. The composite questionnaire was administered to a convenience sample ($N=201$) of call operators working across different industries for different companies. An *ex post facto* correlation design and structural equation modelling (SEM) was used to test the substantive research hypotheses.

The comprehensive *PWBW in Call Centres* structural model obtained a reasonable fit. Support was not found for all the hypothesised theoretical relationships. The main findings include that PsyCap can be expected to retard the development of Exhaustion and Disengagement (two dimensions of burnout) via its ability to diminish the potency of the Workload, Lack of autonomy and Lack of co-worker support stressors, thereby reducing the threat that burnout poses to call operator PWBW.

According to the study's results, call centres can, through the development of PsyCap, empower their call operators with the resources required to protect their PWBW and to better cope with the major call centre stressors included in this study. Call centres should embrace the importance of adopting a strengths based approach to managing human resources and focus on developing the PsyCap of their call operators in order to preserve good PWBW and to unlock sustainability and competitive advantage.

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CHAPTER 1: INTRODUCTION

1.1 CALL CENTRES

Call centres are an integral part of most companies' marketing and/or customer service strategies (Gans, Koole & Mandelbaum, 2003; Gilson & Khandelwal, 2005). The functions that call centres provide are varied and can range from telesales, information services, help desks and debt collection. In South Africa almost all service delivery companies have call centres, including banks and insurance organisations (Moller, Crous & Schepers, 2004). When considering that the service sector represents 70% or more of most developed economies, the significance of call centres becomes more apparent (Gans et al., 2003). Employees in the SA call centre industry have increased from 50 000 in 2005 to 180 000 in 2010, with a growth rate of 40% per year globally, and experts predict this industry to create approximately 100 000 new jobs in the country by 2015 (Lewig & Dollard, 2003; Thomas, 2010).

The increase in the number of call centres has been aided by innovations in telephone technologies and other highly sophisticated telephone routing systems (Hauptfleisch & Uys, 2006). The necessity and growth of call centres are arguably rooted in the clear organisational benefits they offer (Sprigg & Jackson, 2006). For example, it is known that call centres allow organisations to centralise functions which leads to a reduction in costs (Holman, 2003). Call centres also enable companies to reduce the cost of existing functions and to extend and improve customer service, which can generate more revenue opportunities (Bakker, Demerouti & Schaufeli, 2003a). Other benefits include the ability of call centres to act as an alternative contact point between the organisation and the customer by offering a one-stop service which eliminates the high cost associated with one-to-one interaction (Moller et al., 2004). This last point alludes to another benefit in the form of time saved as customers are not required to travel long distances to solve problems or address queries.

Burgess and Connell (2004) noted that an increasingly apparent trend is for organisations to relocate call centres to countries with large pools of skilled labour and where labour is cheap. As a consequence, many Western companies have established call centres in countries like India, Philippines and most importantly, also South Africa.

South Africa has positioned itself to become a global leader in the call centre industry according to the director of Mitral (Gauteng Economic Development Agency, 2014). He referred to skilled labour, similar time zones to Europe and an excellent telecommunications

infrastructure as factors that give South Africa a competitive advantage. According to Van Gass (2003) the establishment of a second undersea fibre optic telephone link with Europe in February 2003 has made South Africa an increasingly attractive option to host call centres. It is also believed that the world class service of call operators in South Africa further separates the country as favourable location from places like India.

Consequently, the call centre industry's significant and fast growing nature is important in terms of both workforce and economic scope (Gans et al., 2003) and plays an important role in both the global and South African economies.

Despite the numerous benefits and significance of call centres, it is not void of problems. Sprigg and Jackson (2006) refer to call centres as *controversial* and state that its benefits to employees appear to be less clear. Fielding (2004) reports that call centres, with its emergence in the 80s, became victims of their own success by fuelling an increase in the quantity of customer demand for immediate better service. This has resulted in working conditions not always being conducive to optimal performance (Hauptfleisch & Uys, 2006) and has led to call centres being labelled the *sweat shops of the nineties* (Moller et al., 2004); *modern factories* (Bagnara, Gabrielli & Marti, 2000; Varca, 2001); *modern forms of Taylorism* (Knights & McCabe, 1998; Taylor & Bain, 1999), *white collar factories* (Wickham & Collins, 2004), *electronic sweatshops* and *dark satanic mills of the twenty first century* (Holman, 2003).

These depressing proclamations suggest that the call centre environment is *toxic* and that its benefits to organisations come at the cost of individual well-being. Researchers support this assertion, referring to call centre work as stressful and demanding, designed according to the principles of scientific management, and forcing the limitations of the coping mechanisms of individuals (Healy & Bramble, 2003; Houlihan, 2002; Simons & Buitendach, 2013; Taylor & Bain, 1999). In fact, reports have listed call centre work as one of the ten most stressful jobs in present day economy (De Ruyter, Wetzels & Feinberg, 2001).

It is widely recognised that stressful work environments have negative consequences for people (Paoli, 1997) and that specific factors in the workplace can seriously impair the psychological well-being (PWB) of individuals (Danna & Griffin, 1999). Much research has been conducted on the stressful nature of call centre work, of which work pressure, high workload, sensory overload, product and service changes, and constant interaction with technology are but only a few (Holman, 2003). Such working conditions have been shown to elicit PWB impairing consequences such as strain, burnout, anxiety and depression (Bakker et al., 2003a; Holman, 2003; Lombard, 2009; Zapf, Isic, Bechtoldt & Blau, 2003).

Diminished opportunities for individual growth and development also contribute to a negative work environment. Fierce competition and pressure in call centres are responsible for a very narrow focus on performance and revenue targets (Hauptfleisch & Uys, 2002). As such, individuals never experience PWB in the form of professional growth and fulfilment of one's potential, which is strongly emphasised by the Eudaimonic approach to PWB (Deci & Ryan, 2008; Waterman, 1993).

Research also found that in comparison to other occupational groups, people working in call centres have a greater risk of suffering from mental health problems and experiencing lower job-related well-being (Mullarkey, Wall, Warr, Clegg & Stride, 1999; Sprigg, Smith & Jackson, 2003).

In light of the magnitude, popularity and importance of call centres in South Africa, this research study views the level of PWB of people working in such centres as a disconcerting and important issue. While call centres can be seen as important building blocks of the South African economy, such economic development appears to be achieved at the cost of the PWB of its people. However, organisations are likely to question individual PWB as a pressing matter, and will want to know why they should care about it.

1.2 WHY INDIVIDUAL PSYCHOLOGICAL WELL-BEING MATTERS

Interest in occupational well-being has spread rapidly in recent years (Loeppke, 2008). Watson Wyatt (2005) stated that PWB is one of the biggest concerns for management and executives. The general consensus is that two primary reasons exist which motivate the importance of organisational involvement in the promotion of individual PWB.

Firstly, as part of their responsibility to society, employers have a moral and ethical obligation to assist in improving the quality of life of people, including those that work for them (Theron, 2014). This is in part also due to the fact that some illness, such as stress and depression can be as a result of unfavourable working conditions (Foxcroft & Roodt, 2013). This implies that increased efficiency or productivity should not be at the cost of individual PWB.

Secondly, while some organisations are concerned with individual PWB because it is the right thing to do, the benefits to both the individual and the organisation go far beyond altruism (Towers Watson, 2010). While individuals will experience better PWB, the organisation will also benefit as healthy people are generally better workers. Healthy individuals can make a positive impact on performance and contribute to improvements in revenue margins (Foulke & Sherman, 2005). Investing in individual PWB is an important

ingredient in assisting a process that would allow companies to maintain a “workforce that is both able and available to employers competing in a global economy” (Loeppke, 2008, p. 106). Promoting individual PWB could help to realise their full potential and to unlock increased organisational performance. Research has shown that PWB directly affects an individual’s level of work engagement and organisational commitment (Simons & Buitendach, 2013; Towers Watson, 2010). Workers with better PWB, specifically in the form of high levels of morale, demonstrate better contextual performance¹ in the workplace (Armstrong, Hart & Fisher, 2003; Hart & Ostragnay, 2000).

Call operators serve as the first and only port of call for clients contacting the organisation. Healthy and better workers can significantly influence the perceptions that clients have about the company, in turn improving client loyalty and the possibility of acquiring new future business.

Disregarding the PWB of people can be costly and detrimental to the functioning of an organisation, hampering growth, competitive advantage, and long term sustainability.

1.3 THE COST OF ILL-HEALTH

Numerous studies point to the cost of ill-health to companies. A survey showed that the costs of incidental absence (which mostly refers to sick leave) amounts to 5.8 % of an organisation’s payroll (Bass & Fleury, 2010). The costs include, overtime, hiring temporary workers, business disruption, lower productivity and decreased customer satisfaction. A South African study done by AIC Insurance reported that absenteeism costs companies in South Africa approximately R12 billion yearly (Lilford, 2008). It has also been estimated that for every £1 spent on employing someone, it costs double that amount when an individual is absent from work (Cotton, 2004). Corrigan et al. (2007) pointed out that the bulk of mental health costs can be attributed to absenteeism and reduced productivity, as opposed to actual medical costs.

With a focus on lost productivity, a study by Sainsbury Centre of Mental Health (2007) estimated that presenteeism², caused by mental ill-health, represented an annual cost of over £15 billion in the United Kingdom alone. Moreover, a study done in Unilever found the

¹ Contextual performance includes behaviour that is important for the overall success of the organisation, such as volunteering to carry out tasks, promoting the organisation to others, exerting effort (Cotton & Hart, 2003).

² ‘Presenteeism’ is defined as lost productivity that occurs when people perform below par due to some kind of illness.

loss of productivity associated with presenteeism to be three times more than that caused by absenteeism (Tscharnezki, 2008).

With reference to the call centre environment exclusively, Holman (2003) identified increased absence and turnover, increased recruitment and training costs, increased errors, decreased quality of customer service, and lower first time call resolutions as costly problems associated with lower levels of individual PWB.

Withdrawal behaviour, no matter in what form, costs organisations money and consequently, threatens projected profit margins. Ultimately, where call centres are supposed to be cost-effective, low individual PWB can in fact increase total costs (Hauptfleisch & Uys, 2006).

It is thus argued that investing in the PWB of people can be justified economically in terms of the value of improved employee performance, or through preventing deterioration in performance, and via minimising other ill-health related costs.

1.4 A CALL FOR INTERVENTION

The foregoing discussion provided arguments to justify the need for strategic PWB investments. The first choice would be to change the call centre working conditions that contribute to negative PWB and impede the promotion of positive PWB. Removing or limiting these barriers may however be a challenging endeavour. At its most basic the argument can stem from pure economics since organisations clearly benefit from call centres because it has enabled them to reduce the costs of existing functions, and to extend and improve customer service facilities.

Researchers have questioned the success with which recent organisational development approaches to job design can be used to improve individual PWB in call centres since a major redesign of intrinsic job characteristics inherent in the role of call handler is almost impossible (Sprigg et al., 2003; Wegge, Van Dick, Fisher, Wecking & Moltzen, 2006). Call centre jobs are an expression of an advanced form of Taylorism (standardisation, regulation and monitoring of work) deemed integral to creating the degree of control required for successful functioning (Hauptfleisch & Uys, 2006; Houlihan, 2002; Taylor & Bain, 1999; Taylor, 1998).

Industrial Psychologists cannot however simply remain silent and accept the status quo. There remains a responsibility towards workers and they should pursue solutions in order to protect the PWB of people working in call centres and in doing so contribute to organisational performance. Excluding the redesign of core task features, other avenues can

be considered that might prove successful in improving the PWB of call operators (Wegge et al., 2006). Holman (2003) provides guidance in this regard with his claim that depending on the individual, he or she can either find call centre work enjoyable, or demanding and stressful. This suggests that apart from the call centre environment, the unique individual's attributes also play a role in determining his or her levels of PWB.

Previous research on call centres have primarily focused on matters such as organisational structure and strategies regarding employee training and development (Callaghan & Thompson, 2001, 2002; Houlihan, 2000; Sawyerr, Srinivas & Wang, 2009). Issues such as stress and burnout that result from call centres have also been studied extensively (Houlihan, 2000; Knights & McCabe, 1998; Sawyerr et al., 2009; Taylor & Bain, 2001). In contrast, studies in call centres relating to the relationship between the characteristics of the individual and their performance have received little attention (Sawyerr et al., 2009). Extant research indicates that little has been done with regard to investigating the role of state-like characteristics and other positive individual resources in managing organisational demands or facilitating employee performance in call centres (Lombard, 2009; Zapf et al., 2003). As such, a lack of understanding in call centre research regarding the role of individual capacities in determining experienced PWB motivates the relevance of this study's intentions to explore the individual attributes in an effort to solve the call centre PWB conundrum.

1.5 RESEARCH QUESTION AND OBJECTIVES

The research initiating question is to explore a plausible model of relations explaining how individual resource variables and job stressor variables account for the variance in individual PWB in call centres as work environments.

This study recognises that all research may be considered in terms of two objectives which include the quest for fundamental understanding and considerations of practical use (Stokes, 1997). Therefore, gaining insight into how the individual and the work environment interacts to account for variance in individual PWB might achieve fruitful research that can aid the development of human resource interventions to protect the PWB of individuals in call centres.

Given the introductory argument, the specific objectives of this research study consequently, are:

- To develop and test an explanatory structural model that accounts for variance in the PWB of individuals working in a call centre environment;
- To test the model fit;

- To evaluate the significance of the hypothesised paths in the model.

1.6 OVERVIEW OF THE STUDY

Chapter 2 provides a literature study on psychological capital (PsyCap), stressors, burnout and PWB at work. The chapter concludes by providing a theoretical framework that serves as a plausible answer to the research question. Chapter 3 outlines the research methodology and includes information on research design, research hypotheses and measuring instruments. The results is summarised in chapter 4, with the conclusion and recommendations reported in chapter 5.

CHAPTER 2: LITERATURE STUDY

2.1 INTRODUCTION

Theron (2011) stated that human behaviour is not a random event, but determined by the lawful expression of the working of a complex nomological network of latent variables characterising the individual and the environment in which he or she operates. The nomological net as determinant of human behaviour refers to an explicit relationship between the workplace and the individual. Consequently, the relationship between the various factors at play responsible for determining individual PWB is not merely an unsystematic outcome of work and can be predicted. The quest to explain variance in individual PWB requires an exploration of the complex interaction of the characteristics of the individual, the psychological meaning/interpretation attached to the objective reality and the interaction between the two (Theron, 2014).

The conceptual evidence and empirical generalisations among the relevant constructs as depicted in Figure 2.1, provide an opportunity to select and extract links in order to support the plausible constellations, associations and interactive effects of individual resources and job stressors that predict the individual PWB nomological net at play.

2.2 PSYCHOLOGICAL WELL-BEING (PWB): A NEW PERSPECTIVE

Traditionally, psychology has been driven by a pathogenic paradigm which encompasses a focus on the abnormal, and investigating and finding answers that would allow treatment and prevention of illness. This is reflected in statistics which roughly show that between 1996 and 2003 only 6% of articles published in the *Journal of Occupational Health Psychology* focused

on the positive aspects of individual PWB (Rothman, 2003). The balance of 94% focused on illness-related outcomes such as burnout, stress and psychosomatic complaints.

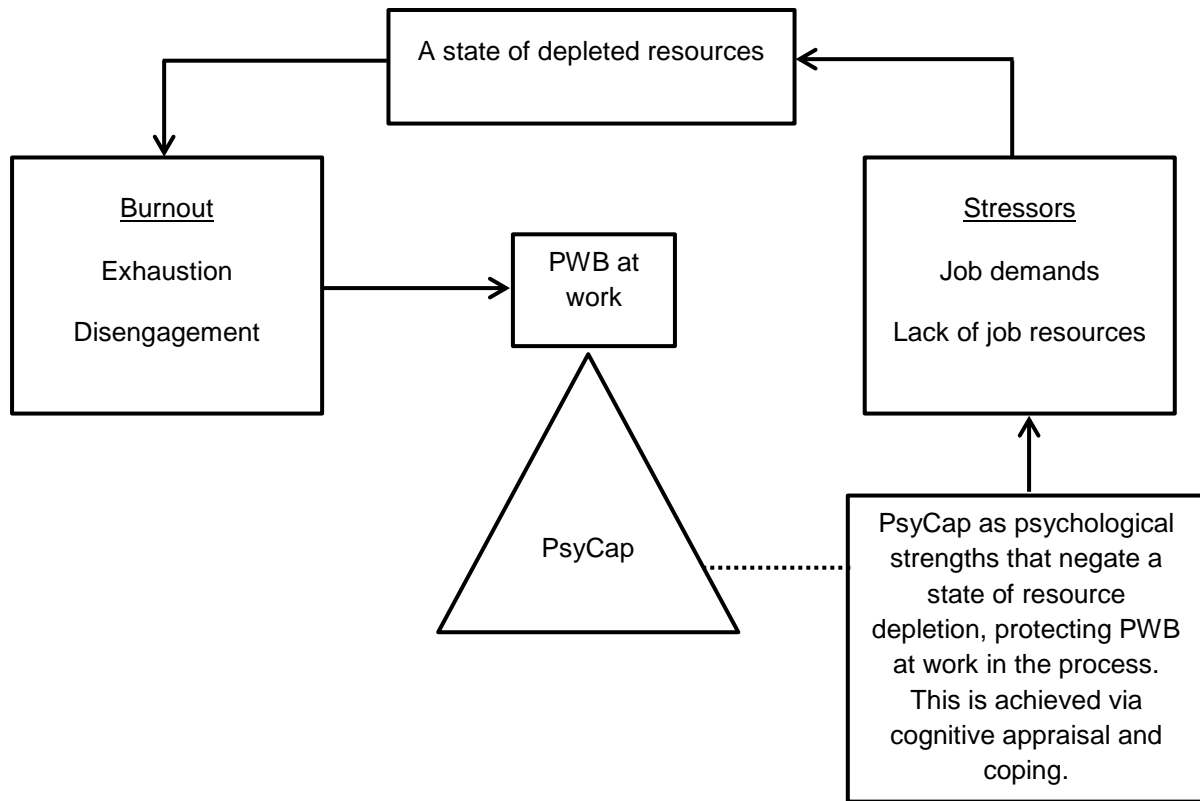


Figure 2.1. The Proposed Individual – Work Environment Interaction

Antonovsky (1979) was the first to introduce a paradigm shift with the introduction of salutogenesis³ (Latin *salus* = health, Greek *genesis* = origin). He argued that the focus should rather be on studying the origins of health as opposed to focusing on the roots of illness. Consequently, there have been attempts to move from an interest in “what can go wrong” to a discovery of “what can go right” (Strümpfer, 2002). Such a paradigm shift required a radically different set of assumptions and attributions of individual PWB.

In the year 2000, an entire issue of the *American Psychologist* focused on what was called “positive psychology” (Ryan & Deci, 2000). Seligman and Csikszentmihalyi (2000, p. 5) wrote: “The field of positive psychology at the subjective level is about valued subjective experience: well-being, contentment, and satisfaction (past), hope and optimism (future), and flow and happiness (present)”. Seligman explained positive psychology as a discipline that moves beyond nullifying well-being threats to get to zero, and that it is more about

³ Strümpfer (1995) maintained that salutogenesis should be broadened from a focus on health only, to encompass strength, fortigenesis (Latin *fortis* = strength). A new sub-discipline of psychofortology was also suggested with the aim of broadening studies of the origins of PWB to include an investigation into its nature, manifestations and enhancement (Wissing & Van Eeden, 1997).

asking what conditions would enable people to flourish in order to go from zero to plus five (Seligman, as cited in Wallis, 2005). As per the vision of Martin Seligman, positive psychology is orientated towards building what is right as opposed to fixing what is wrong (Seligman, 2003). With the rise of positive psychology, more attention is now given to human strengths and optimal functioning and it is seen as an alternative to the predominant and ill-informed focus on pathology and deficits (Maslach, Schaufeli & Leiter, 2001).

There is also a tendency to adopt a pathological approach to PWB in Industrial and Organisational Psychology. This means that companies are typically measuring individual PWB in terms of absence of illness or performance pathology; ignoring the positive aspects of functioning and reducing people to the sum of their problems. However, the rise of positive psychology has paved the way for organisational measures of individual PWB that focus on happiness, flourishing and other positive states (Fisher, 2010). An organisation's stance on individual PWB should therefore serve psychology's two forgotten missions: making people's lives productive and worthwhile, and actualising human potential (Luthans & Youssef, 2004; Seligman, 2003).

2.2.1 PSYCHOLOGICAL WELL-BEING AT WORK (PWBW)

The concept of PWB is complex. Finding an all-encompassing definition for PWB remains unanswered and is beyond the scope of this study. This study's aim is to focus on PWB as contextualised to the workplace. Such a domain-based focus is justified by research which found PWB to fluctuate depending on the specific life domain (Diener, 1984; Diener, Scollon & Lucas, 2003). Moreover, research evidence provides mixed support for the relationship between life satisfaction and job satisfaction (Hart, 1999; Judge & Watanabe, 1993; Rode, 2004). This implies that one is not merely the contextualised version of the other. Also, empirical studies have shown that context-specific measures have increased validity over context-free measures when predicting organisational outcomes such as performance (English, 2001; Hunthausen, Truxillo, Bauer & Hammer, 2003). Such empirical evidence, in combination with rational arguments in favour of context-specific measures, provides support for a unique, yet related, conceptualisation of PWB at work in contrast to context-free PWB.

Popular PWB approaches such as the Hedonic and Eudaimonic traditions all measure context-free PWB (Dagenais-Desmarais & Savoie, 2012). Researchers believe that components of context-free PWB are too often measured without questioning the suitability of such a methodological choice when predicting organisational outcomes such as performance (Cropanzano & Wright, 1999; Wright, Cropanzano & Meyer, 2004).

Consequently, context-free measures appear to be imprecise and to constrain organisational sciences from a clear understanding of PWB.

A broad definition of PWB describes it as a state of equilibrium or balance between an individual's resource pool and the challenges faced (Dodge, Daly, Huyton & Sanders, 2012). This definition is used in the present study to complement the psychological well-being at work focus and to aid interpretations of the observed psychological well-being at work.

Previously, no adequate conceptual framework existed which was specifically devoted to psychological well-being at work (PWBW). In response to this gap, Dagenais-Desmarais and Savoie (2012) developed the Index of Psychological Well-Being at Work (IPWBW) which allows for the measurement of contextualised PWB within the workplace. These authors describe PWBW as a construct that defines PWB in terms of an individual's subjective positive experience at work, as considered in a work frame-of-reference and from the workers' point of view.

PWBW comprises five primarily Eudaimonic dimensions which are: Interpersonal Fit at Work, Thriving at Work, Feeling of Competency at Work, Perceived Recognition at Work, and Desire for Involvement at Work (Dagenais-Desmarais & Savoie, 2012). These authors assert that the above dimensions should not be considered as independent constructs, but rather as interacting with one another to reflect an all-encompassing construct known as PWBW.

Given that individual PWB in the workplace is the study's focus, it is imperative that an account be given of the workplace under scrutiny. The workplace itself is a broad term and refers to many occupational settings with different challenges and demands. As revealed in the introductory chapter, individual PWB will be observed and measured in the call centre work domain. The following section will elaborate on this environment.

2.2.2 PSYCHOLOGICAL WELL-BEING IN CALL CENTRES

The work performed in call centres can be summarised as the integration of advanced technology with an effectively designed business process and capable human resources (Hauptfleisch & Uys, 2006). This is a work environment in which the main business is mediated by a computer, and telephone-based technologies that enable the efficient distribution of incoming calls (or allocation of outgoing calls) to available staff, and permits the customer-employee interaction to occur simultaneously with the use of display screen equipment and the instant access to, and inputting of, information (Holman, 2003).

In short, call centres can include parts of an organisation dedicated to a specific activity, or refer to a whole company specialising in providing such services (Sprigg & Jackson, 2006). Call centres can even include operations where as little as three telephones handle company or customer issues (Rademeyer, 1997).

Evidently, call handlers can be in direct contact with clients, either through dealing with inbound calls, via making outbound calls, or by performing a combination of these roles (Healy & Bramble, 2003). As part of their work, the use of interactive display terminals require them to perform multiple tasks with regular interruptions and where expectations also include having to engage in repetitive activities and physical movements whilst complex data is processed (Bakker et al., 2003a). The work environment is often noisy and characteristic of high time pressure (Ferreira & Saldiva, 2002). Displaying strong communication skills and high levels of efficiency are also critical requirements for call operators (Bakker et al., 2003a).

In many cases customer interaction requires call handlers to follow a scripted dialog which is most likely displayed on a computer screen (Deery, Iverson & Walsh, 2002). This can take the form of a greeting message that has to be repeated verbatim to every customer before interaction is allowed to begin, as well as a collection of alternative scripts to be followed, depending on the customer responses (Sprigg & Jackson, 2006). Call centre operators may even be told to display selected emotions such as friendliness (Zapf et al., 2003).

Call centres facilitate supervisory control over the work process through automatic call distribution (ACD) or predictive dialling systems which allocate and set the pace of work, whilst simultaneously monitoring call handler performance through real-time statistical displays or line eavesdropping (Healy & Bramble, 2003). This creates an unprecedented degree of control which is deemed critical to the efficient functioning of call centres (Hauptfleisch & Uys, 2006). The importance of technology in call centres is paramount as it controls the nature of the work, allows individuals access to information with the 'touch of a button', and acts as a geographically mobile industry, allowing operators to provide service activities from any location (Paulet, 2004).

Call centre work has been labelled as an advanced form of Taylorism and the argument emanating from such claims is that PWB implications are rooted in the characteristics of call centre work. Research has shown that typical call centre job characteristics such as performance monitoring, a lack of control, emotional demands and high workload can lead to depression, exhaustion and high levels of anxiety (e.g., De Ruyter et al., 2001; Demerouti, Bakker, Nachreiner & Schaufeli, 2000, 2001; Holman, Chissick & Totterdell, 2002; Knights &

McCabe, 1998; Lee & Ashforth, 1996; Leiter, 1993; Taylor & Bain, 1999; Zapf, Vogt, Seifert, Mertini & Isic, 1999).

Studies by Sprigg et al. (2003) and Deery et al. (2002) found that individuals who are required to follow a set script reported significantly higher levels of anxiety, depression, and mental strain than those that do not use scripts. Dealing with verbally abusive customers is also a common part of call centre work and seems to relate strongly with measures of burnout (Dormann & Zapf, 2004; Wegge, Van Dick & Von Bernstorff, 2010).

More specifically, research points out that around 40% of people working in call centres almost always experience a state of exhaustion, while 45% report feeling job stress on a permanent basis (Hyman, Baldry, Scholarios & Bunzel, 2003).

Sprigg et al. (2003) and Deery et al. (2002) compared call handlers with a range of other occupations in an effort to determine whether call centre work is more stressful and threatening to individual PWB than other jobs. Results suggest that call handlers experience the second highest level of anxiety (second only to management positions); experience the highest level of depression, and also experience the highest levels of mental strain.

Authoritative views in sum, view call centre work to exemplify a type of occupation that is thought to be most susceptible to job burnout. Healy and Bramble (2003) conducted a brief overview of call centre literature and found the work and organisational characteristics to be of such a nature that high levels of job burnout can be anticipated to prevail. The next section will discuss burnout in more detail.

2.3 BURNOUT

The experience of stress and strain has been discussed as inherent to the characteristics of call centre work. Research suggests that people who work in call centres are constantly exposed to stressor conditions that increase their chance of experiencing burnout. Call centre work has even been labelled as the ideal site for burnout development. Burnout poses a real threat to the PWBW of call operators and has been referred to as a negative work-related well-being state (Welthagen & Els, 2012).

Burnout explains the relationship that individuals have with their work and the complications that arise when that relationship goes awry (Maslach et al., 2001). Burnout has evocative power as a form of work-related strain and is relevant to the purpose of this study.

2.3.1 BURNOUT DEFINED

Maslach (1982) offered arguably the most influential definition of burnout as a syndrome of emotional exhaustion, depersonalisation, and reduced personal accomplishment that can occur among individuals who do “people work” of some kind. Maslach, Jackson and Leiter (1996) later altered the definition of burnout to include exhaustion, cynicism and reduced professional efficacy to allow the measurement of burnout in more general occupations. However, while this study recognises the work of Maslach and associates, it has adopted the conceptual framework as proposed by Demerouti (1999), who asserted that burnout consists of two dimensions, namely: exhaustion and disengagement. As a response to perceived weakness in Maslach’s conceptualisation of burnout, Demerouti and colleagues eliminated the reduced professional efficacy dimension, believing that it had a weaker connection to the core components of exhaustion and disengagement (e.g., Koeske & Koeske, 1989; Lee & Ashforth, 1996; Leiter, 1993; Schaufeli & Enzmann, 1998; Shirom, 1989). Furthermore, the broader subscales of exhaustion and disengagement mean that burnout can be measured across a wide range of occupations.

Exhaustion is defined as affective, cognitive and physical strain as a result of being exposed to job demands for extended periods (Demerouti, Bakker, Vardakou & Kantas, 2003). These authors mention that, contrary to Maslach’s delineation of exhaustion, it does not only consist of affective exhaustion, but also includes physical and cognitive aspects. Moreover, this conceptualisation is more comprehensive and in line with other definitions of exhaustion (e.g., Aronson, Pines & Kafry, 1983; Lee & Ashforth, 1993; Shirom, 1989).

Disengagement refers to distancing oneself from one’s work and experiencing negative attitudes towards the work content, work object or one’s work in general (Bakker & Demerouti, 2008). Disengagement is concerned with the relationship between individuals and their work, specifically with respect to willingness to continue in the same occupation, and identification with the work (Demerouti, Mostert & Bakker, 2010). While depersonalisation includes emotions that have a direct bearing on recipients (e.g., callous, impersonal), disengagement refers to emotions regarding the work itself (e.g., uninterested, not challenging). Depersonalisation is consequently only one form of disengagement which is aimed towards the customers/co-workers (Demerouti et al., 2003). Similarities exist between cynicism and disengagement, but these authors view cynicism to be a restricted construct as it mainly refers to a lack of interest in the job and job meaningfulness.

Evidently, burnout goes beyond an experience of only exhaustion and also takes into consideration the relationship that people have with their work, as is indicated by disengagement (Maslach, 1998; Maslach et al., 2001).

The development of burnout can be better understood in terms of resource loss, given the provided definition of PWB as a state of equilibrium between an individual's resource pool and the challenges faced (Dodge et al., 2012). Burnout is recognised as a reaction to stress and indicates a breakdown in the adaptation process, where it is regarded as the final step in a progression of failed attempts to cope with a variety of stress conditions (Rothmann, Jackson & Kruger, 2003). This implies that individuals who experience exhaustion are typically drained from adaptive resources and are no longer able to invest the energy required to perform their work and to protect their performance levels (Hockey, 1993, 1997). Disengagement signifies a process whereby individuals withdraw from their work because they have no more resources left to give and it also serves as a protection mechanism against further resource loss and feelings of failure/incompetence (Schaufeli & Bakker, 2004). Figure 2.1 depicts the process of how stressors can lead to a state of resource depletion with the consequence of burnout.

2.3.2 THE OUTCOMES OF BURNOUT

The significance of burnout for both the individual and the organisation is arguably rooted in its relationship with PWBW and organisational performance outcomes. Research has shown burnout to be a multidimensional, chronic, work-related syndrome, which poses a serious threat to individual PWBW and work ability.

Burnout has demonstrated a negative association with a number of mental health conditions, of which depression (Ahola & Hakanen, 2007; Glass & McKnight, 1996) and general mental health (Bovier, Arigoni, Schneider & Gallacchi, 2009; Brinkborg, Michanek, Hesser & Berglund, 2011; Demerouti et al., 2010) have been extensively studied. A study done by Toppinen-Tanner (2011) reported outcomes of burnout to range from sick leave to hospitalisation to receiving disability pensions. The same study also found burnout to be related to future mental and cardiovascular disorders.

The definition of burnout associates it with various forms of job withdrawal such as absenteeism, intention to quit and actual turnover (Maslach et al., 2001). These authors also argue that even if people choose to stay on the job, burnout still leads to lower productivity and effectiveness at work (presenteeism). They believe that consequently, burnout can be associated with decreased job satisfaction and reduced organisational commitment. Maslach

et al. (2001) also states that burnout can be 'contagious' and disrupt the performance of others via its negative impact on colleagues.

2.3.3 BURNOUT AND PWBW

Given the review of burnout and its outcomes, individuals experiencing this stress syndrome are expected to report lower levels of PWBW. The argument follows that the two burnout dimensions (exhaustion and disengagement) will either individually or in combination act to exert influence on each of the five dimensions constituting the higher order construct of PWBW. The existence of such relationships imply that an individual's PWBW will fluctuate depending on the presence (or absence) of burnout and the degree of strength with which the two dimensions manifest.

Listed below are discussions on the dimensions of burnout as it relates to influencing each of the five dimensions of PWBW.

2.3.3.1 DISENGAGEMENT AND INTERPERSONAL FIT AT WORK

The first dimension of PWBW is Interpersonal Fit at Work (IFAW), and refers to an individual's perception of experiencing positive relationships with the individuals interacting with him or her within the workplace (Dagenais-Desmarais & Savoie, 2012). The items measuring IFAW encompass aspects such as valuing people at work, enjoying working with them, getting along with them, having a relationship of trust, and feeling accepted.

It is argued that the disengagement dimension of burnout negatively influences IFAW. Burnout research views disengagement as an indicator of the relationship between the individual and his or her work. Individuals who disengage from their job develop an impersonal, callous and hardened attitude towards their work, their performance, and also those associated with the job (such as clients and co-workers) (Halbesleben & Buckley, 2004). Rothmann et al. (2003) asserts that such individuals distance themselves emotionally and cognitively from work, which includes being less involved with, or responsive, to the needs of other people. Demerouti et al. (2003) described depersonalisation as a part of disengagement, where such a state reflects a feeling of being indifferent towards others (Maslach et al., 2001). With reference to the contaminating effect of burnout, it is further evident that the syndrome has the ability to disrupt healthy co-worker relationships. Suffering from disengagement is expected to constrain an individual's capacity to develop the type of co-worker relationships that will give rise to strong feelings of value, acceptance and trust.

2.3.3.2 EXHAUSTION, DISENGAGEMENT AND THRIVING AT WORK

The second PWBW dimension, Thriving at Work (TAW), is defined as an individual's perception of accomplishing a significant and interesting job that allows one to fulfil oneself as an individual (Dagenais-Desmarais & Savoie, 2012). Items measuring TAW encompass aspects such as finding the job exciting, liking the job, being proud of the job, finding meaning in the work, and experiencing a sense of fulfilment at work.

It is argued that the burnout dimensions of exhaustion and disengagement will both negatively influence TAW. Feeling fatigued, worn out, or drained all the time could promote negative emotions which have the potential to influence the degree of optimism and satisfaction with which people view their jobs. Disengagement (negative/detached response to the job) and a loss of idealism (Demerouti et al., 2001; Schwarzer & Hallum, 2008) are indicative of an uninvolved or alienated relationship with work where the individual is ultimately disconnected from the job. Moreover, Maslach et al. (2001) explain that feeling exhausted and indifferent towards the people that require one's help is unlikely to inspire a sense of accomplishment. In their words, "what started out as important, meaningful, and challenging work becomes unpleasant, unfulfilling, and meaningless" (p. 416). Feeling disconnected and exhausted is unlikely to inspire a strong sense of TAW.

2.3.3.3 EXHAUSTION, DISENGAGEMENT AND FEELING OF COMPETENCY AT WORK

The third dimension of PWBW, Feeling of Competency at Work (FOCAW), is defined as an individual's perception of possessing the necessary aptitudes to do his or her job efficiently and having mastery of the tasks to perform (Dagenais-Desmarais & Savoie, 2012). The items measuring this dimension encompass aspects such as knowing you are capable of performing the job, feeling confident at work, feeling effective and competent in one's work, knowing what to do in the job, and knowing one's value as a worker.

Both burnout dimensions (exhaustion and disengagement) are argued to influence FOCAW. Hockey (1993, 1997) stated that individuals will try to protect their performance in the face of high demands, and in the process invest the resources required to maintain the expected performance levels. Where the individual is exhausted, he or she has nothing left to give and will struggle to achieve the desired or expected goals. Moreover, Hockey states that disengagement follows resource depletion where individuals choose to protect the resources they have left (coping mechanism) at the expense of performance. Ultimately, burnout will affect the individual's ability to sustain the expected job performance levels and will consequently negatively influence the individual's feelings of competency at work. Research

has shown reduced professional efficacy to be a consequence of exhaustion and disengagement (Koeske & Koeske, 1989; Shirom, 1989). Researchers have associated this state with reduced productivity, low feelings of achievement and an absence of confidence in one's skills and abilities (Schwarzer & Hallum, 2008). Experiencing exhaustion and disengagement is thus argued to negatively affect FOCAW.

2.3.3.4 EXHAUSTION, DISENGAGEMENT AND RECOGNITION AT WORK

Perceived Recognition at Work (PRAW), the fourth PWBW dimension, is described as the perception of being appreciated within the organisation for one's work and one's personhood (Dagenais-Desmarais & Savoie, 2012). Aspects captured by the items measuring PRAW encompass feeling that one's work is recognised, that one's efforts are appreciated, that people believe in the projects one works on, that people recognise one's abilities, and that one feels like a member of the organisation.

The burnout dimensions of exhaustion and disengagement are both argued to negatively influence PRAW. A state of exhaustion is capable of evoking thoughts that include being seen as a 'work donkey' and not appreciated as a human being with limitations and needs. Feelings of being used as a means to an end may compromise the individual's perceptions of being genuinely appreciated in the bigger scheme of things. Concerning disengagement, the argument is that displaying negative, inappropriate and detached behaviour towards recipients (i.e. clients and co-workers), performance, and the job, is likely to minimise one's chances to feel appreciated. Creating distance between oneself and others and acting in ways that compromises performance can threaten one's sense of belonging and reduce opportunities to be recognised for one's abilities and valuable contribution. Furthermore, burnout has been discussed as responsible for depression, which could further remove an individual from experiencing PRAW.

2.3.3.5 EXHAUSTION, DISENGAGEMENT AND DESIRE FOR INVOLVEMENT AT WORK

The final PWBW dimension, Desire for Involvement at Work (DFIAW), is defined as the will to involve oneself in the organisation and to contribute to its good functioning and success (Dagenais-Desmarais & Savoie, 2012). Items measuring DFIAW encompass concepts such as wanting to take initiative in work, caring about the good functioning of the organisation, willing to take on challenges in work, wanting to contribute to helping the organisation achieve its goals, and to be involved in the organisation beyond normal duties.

Burnout's two dimensions of exhaustion and disengagement are argued to negatively influence the individual's DFIAW. As per Hockey's (1997) *state regulation model of compensatory control*, when individuals are exhausted they have used up all their energy resources and have got nothing more to give. This implies a state where individuals find it difficult to summon up the required energy to meet their daily demands, let alone engaging in a state of discretionary effort. As discussed, disengagement is also expected to influence the individual's desire to display involvement at work and to go beyond the call of duty. Having no resources left to give and being disconnected from the job is argued as major contributors to negative feelings of individual DFIAW.

Given the arguments provided, it is asserted that a negative relationship exists between the two dimensions of burnout and PWBW. This means, where burnout is amplified (as representative of a dysfunctional work-employee relationship) a likely conclusion is that the work environment accounts for a reduction of individual PWBW. It is argued that call centres, as potential incubators of burnout, negatively affect the individual's PWBW.

From the discussions pertaining to the relationship between the two dimensions of burnout and PWBW, the following hypotheses are put forward:

Hypothesis 2: Exhaustion will have a direct negative relationship with PWBW

Hypothesis 3: Disengagement will have a direct negative relationship with PWBW

2.3.4 THE ANTECEDENTS OF BURNOUT

Antecedents of burnout can be divided into individual, organisational and occupational factors (Maslach et al., 2001), and according to general stress theories all of these factors play a role in the development of burnout (Toppinen-Tanner, 2011).

In line with the study's current occupational focus, conditions such as the use of technology, workload, emotional labour, control, reward, fairness, values, and social support are all factors contributing to the development of burnout in organisations (Healy & Bramble, 2003; Maslach et al., 2001; Schaufeli & Bakker, 2004; Schaufeli, Keijsers & Miranda, 1995; Zapf, Seifert, Schmutte & Mertini, 2001). From earlier discussions, call centre work represent these types of conditions.

2.4 STRESSORS

Call centre work characteristics give rise to the development of burnout; however, resources may, in part, determine the strength of this relationship. These observations and interpretations are discussed in the next section. Figure 2.2 that follows, illustrates the different call centre stressors as antecedents of burnout.

2.4.1 STRESS, RESOURCES AND THE PRESENCE OF BURNOUT

Stress is recognised as the mechanism through which call centres exercise influence on PWBW threatening conditions such as burnout. The potentially harmful or threatening stimulus that is responsible for starting the stress process is commonly known as a stressor and is said to have its roots in the individual's working environment.

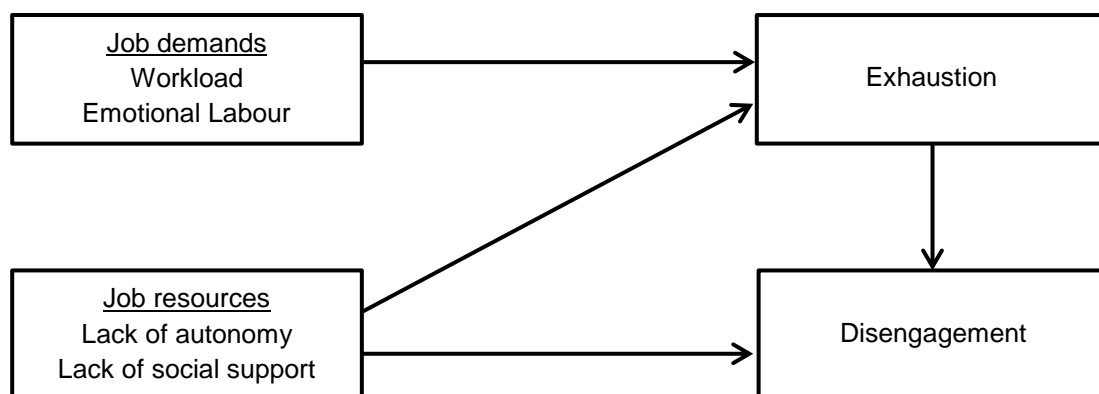


Figure 2.2. Overview of Different Call Centre Stressors and Burnout

(adapted from Demerouti et al., 2001, p. 502)

The *cognitive appraisal approach* to stress explains that an individual experiences stress when an imbalance exists between the individual's assessment of own resources available and those resources required to cope with the confronting stressor (Cooper, 2000; Moore & Cooper, 1998). The conservation of resources (COR) theory (Hobfoll, 1989; Hobfoll & Freedy, 1993) best explains the role of resources in experiencing stress. The COR theory argues that individuals strive to obtain, maintain, and protect resources they value as it plays a critical role in motivating and helping people to overcome challenging situations (Hobfoll, 2001, 2002). As such, situations are experienced as stressful when resources are threatened with loss, are depleted, or when the acquiring of resources fails after significant resource investment (Hobfoll, 1989, 2001).

More specifically, depending on the size of the individual's resource pool, he or she may be less or more vulnerable to experiencing stress (Hobfoll & Shirom, 2000). Important to this process is the ability to create new resources in order to replace those lost. In this regard, people who have large resource pools will be capable of sacrificing resources in order to unlock opportunities for resource gains ('gain spiral'). The opposite is also true where people with small resource pools are likely to experience increased loss ('loss spiral') as they struggle to overcome challenges and to replace valuable lost resources.

This research study adopts the COR theory to explain why some individuals can recover from difficulties better and are able to more easily build resources in the face of adversity.

From the discussion above, it is evident that stressors require the individual to invest some resources in order to overcome the prevailing challenge and its negative consequences. The COR theory explains that the continued loss or threat to resources in response to a stressor condition will lead to burnout (Hobfoll, 2001). Burnout as the result of a series of failed attempts to manage and cope with stressors is therefore argued to signify a state of *depleted resources*. This implies that individuals initially had resources to invest in trying to cope with the stressor situation, but that attempts eventually failed as their resources were depleted in the process. Consequently, it begs the following question: Do individuals who cope with stressors in a manner that does not lead to burnout have *more* or *different* resources that are able to retard burnout (a state that signifies that resources are depleted)?

To help answer this question, it is important to closer investigate the meaning of resources. Resources referred to in the process of experiencing and overcoming stress can be defined as any object, personal attribute, or energy (Diener & Fujita, 1995). Hobfoll (2002) adds to the understanding of resources, stating that resources are those entities that are either valued in their own right or as a means to obtaining valued ends. The COR theory in its reference to resources includes all types of resources, however for the purposes of this study the researcher will differentiate between job resources, psychological capital (PsyCap) resources, and personal resources⁴. In this study, job resources (more specifically the lack of job resources) will be included as stressors and will not form part of discussions relating to the availability of resources to an individual. PsyCap is regarded as resources in the form of psychological strengths and will be discussed in subsequent sections. In this study, personal resources refer to all other resources available to an individual excluding that of job resources and PsyCap resources. This study separates PsyCap from personal resources as the specific role of PsyCap resources in the process of stress management is a particular

⁴ The work of Diener and Fujita (1995) and Hobfoll (2002) can be consulted as a guide to better understand the differentiation between resource types.

area of interest. However, for now the focus will solely be on resources specifically in the form of personal resources.

First, attention is turned to the call centre work stressors which demand personal resource investment from individuals, as a result prompting the development of burnout.

2.4.2 MODEL OF JOB STRESS

At the heart of occupational health psychology lies the belief that job characteristics affect individual PWBW (Hu, Schaufeli & Taris, 2011). Job stressors are embedded in the form of job characteristics and can be divided into two groups, namely job demands and a lack of job resources (Bakker & Demerouti, 2007; Leiter & Maslach, 1988; Schaufeli & Enzmann, 1998).

The Job Demands-Resource (JD-R) model (Bakker & Demerouti, 2007; Demerouti et al., 2001), in combination with the COR theory, are discussed as a guiding framework to illustrate how job characteristics evoke two psychologically different processes, each uniquely stimulating burnout in terms of its two dimensions.

In the first process, job demands (i.e., work overload and demanding customers) initiate an energetic process exerting constant psychological overtaxing which can lead to exhausting individuals in the long run (e.g., Bakker et al., 2003a; Lee & Ashforth, 1996; Wright & Cropanzano, 1998). Most individuals will use a performance protection strategy when confronted with high job demands; however, maintaining the desired performance level is not cost free, meaning that exposure to prolonged periods of coping will deplete their personal resources and reduce their capacity to perform well (Hockey, 1993, 1997).

In the second process, job resources play a motivational role, where a lack of such resources interferes with goal accomplishment, causing feelings of frustration and failure, ultimately leading to disengagement or withdrawal behaviour (Schaufeli & Bakker, 2004; Bakker, Demerouti, De Boer & Schaufeli, 2003b). Withdrawal or disengagement can also be interpreted as self-protecting mechanisms to prevent the development of feelings of frustration and failure caused by the inability to achieve work-related goals (cf. Hackman & Oldham, 1980). Lacking the personal resources required to overcome the prevailing lack of job resources stressor can therefore lead to disengagement.

Two additional processes are acknowledged that serve to supplement the two psychological mechanisms mentioned above, and expand the study's understanding regarding the relationship between stressors and burnout.

Firstly, it is possible for job demands to cause a state of disengagement via its ability to promote exhaustion. Individuals who suffer from exhaustion have no more personal resources left and are likely to resort to disengagement in order to avoid further resource loss, and to minimise the strain experienced (Hockey, 1997; Wright & Bonett, 1997).

Secondly, a lack of job resources is capable of directly promoting exhaustion. Studies have supported a lack of job resources to have an additive relationship with strain (Hu et al., 2011). An additive relationship means that a variable has a linear association with strain (Edwards & Cooper, 1990). Job resources' association with strain can be explained via its ability to help people cope with demands and consequently protect PWBW (Demerouti et al., 2001; Hobfoll & Freedy, 1993; Hobfoll, 1989). As call centre work is salient⁵ (Varca, 2001), the lack of important job resources can aggravate the situation and add to the total strain experienced, demanding more personal resource investment, and increasing the individual's chances of experiencing exhaustion. As such, job demands and lack of resources act together, with the overall consequence computed as the simple (arithmetic) sum of the individual effect of each factor (Hu et al., 2011).

Refer to Figure 2.2 for an illustration on how the four processes discussed above contribute to the development of burnout in terms of its two dimensions.

2.4.3 JOB DEMANDS

Jones and Fletcher (1996) defined demands as the degree to which the environment contains stimuli that require attention and response, or as representing things that need to be done. More specifically, job demands refer to the physical, social, and organisational aspects of the job that require the individual's sustained physical or psychological (cognitive/emotional) effort and are therefore associated with physiological and psychological costs (Demerouti & Bakker, 2011).

The presence of job demands may, however, not necessarily be negative by default. It is likely to turn into a job stressor when meeting those demands requires effort that exceeds the individual's personal resources or adaptive capacity, leading to negative responses such as depression, burnout and anxiety (Bakker et al., 2003a; Schaufeli & Bakker, 2004).

Job demands include several demanding characteristics of the work environment such as time pressure, workload, emotional demands, problems with work equipment, physical

⁵ Salient tasks are cognitively and emotionally demanding work.

demands, and problems with the work (Bakker & Demerouti, 2008; Bakker et al., 2003a; Demerouti et al., 2001).

For the purposes of this study workload and emotional labour are selected as job demands since they prominently feature in call centre research (e.g., Bakker et al., 2003a; Deery et al., 2002; Hauptfleisch & Uys, 2006; Healy & Bramble, 2003; Holman, 2003; Hu et al., 2011; Sprigg & Jackson, 2006; Sprigg et al., 2003; Van Jaarsveld & Poster, 2013; Zapf et al., 2003). These indicators also represent qualitative and quantitative forms of job demands respectively, which are believed to constitute a more representative definition of job demands (Hu et al., 2011).

This study includes objective, as well as subjective forms of job demands where objective demands are represented as work overload, and operationalised as the amount of work designated to an individual. Subjective demands are represented as emotional labour, and operationalised as the extent to which people are required to engage in surface acting (faking displayed emotions and hiding personal feelings).

2.4.3.1 WORK OVERLOAD IN CALL CENTRES

High volumes of work are well-associated with call centre working conditions and are seamlessly embedded within the characteristics of these environments. Technology and the huge increase in the use of efficiency-enhancing technology all play a big part in controlling the allocation and pace of work in call centres (Healy & Bramble, 2003). Call centres utilise technology to enable *workflow integration* which involves the removal of waste (for example, idle time between tasks) and of barriers to the free flow of work (Delbridge & Turnbull, 1992; Sprigg & Jackson, 2006). This means that work is machine-paced, the cycle times between tasks are short, and calls characteristically need to be completed in less than two minutes and 25 seconds (Sprigg et al., 2003). These systems dictate to call handlers to maximise the number of calls they make or to reach a predetermined target of calls while computer programmes monitor call duration and the lag between calls (Taylor & Bain, 1999). Researchers have associated the unprecedented level of control exercised by computer based programmes and the presence of dialog scripting with high levels of workload (Amick & Celentano, 1991; Sprigg & Jackson, 2006).

Call centre job demands have been identified as the most important predictor of exhaustion as experienced by call operators (Bakker et al., 2003a). The relationship between specific job demands (like workload) and exhaustion is supported by numerous burnout studies, of which exhaustion is the main symptom (e.g., Cordes & Dougherty, 1993; Lee & Ashforth,

1996). Moreover, studies by Demerouti and her colleagues illustrate the powerful impact of job demands on exhaustion, as such a relationship has been found valid across different occupational groups (Demerouti, Bakker & Bulters, 2004; Demerouti et al., 2001).

Being exposed to a high workload over time may deplete an individual's personal resources, leading to a state of complete exhaustion (e.g., Demerouti et al., 2000, 2001; Lee & Ashforth, 1996; Leiter, 1993). Furthermore, as individuals try to cope with cognitive exhaustion they withdraw from work mentally, promoting a state of disengagement (Hockey, 1997; Maslach, 1993). Being exposed to work overload puts an individual at risk of developing burnout.

2.4.3.2 EMOTIONAL LABOUR IN CALL CENTRES

Much of what individuals do on the job requires the management of emotions in their interaction with others. In call centres, the display of emotions or the use of feelings is central to task accomplishment and performance (Zapf et al., 2003). It is said that individuals perform emotional labour when they manage or regulate their emotions in exchange for a wage (Totterdell & Holman, 2003).

Emotional labour is required because call centre individuals are viewed as the front-line of a company's relations with clients/customers (Healy & Bramble, 2003). To optimise client relations and the service experience, call centres predominantly apply dialog scripting as a standardised process of employee-client interactions (Sprigg & Jackson, 2006). The use of this system is believed to significantly contribute to the presence of emotional labour. The script dictates and prescribes exactly how individuals must respond to certain situations and client reactions, and more importantly also include the desired emotional responses that is compulsory to portray (Sprigg & Jackson, 2006; Zapf et al., 2003). Deery et al. (2002) refer to dialog scripting as an extreme form of process standardisation, limiting the call operator's ability to respond to unpredicted idiosyncratic circumstances.

Even though there is no direct face-to-face contact with customers, there are typically strong demands to be friendly to customers of call centres. This notion is strongly encapsulated by statements describing call operators as required to *smile down the telephone* (Callaghan & Thompson, 2002). Furthermore, Zapf et al. (2003) reported that call centre individuals are commonly asked to express less negative emotions. Additionally, the presence of performance monitoring in the form of line eavesdropping or recorded calls ensure that deviations from the norm can easily be detected (Holman, 2003).

Displaying organisational-prescribed emotions to customers and clients is proposed as a form of *labour* since it requires effort, planning, anticipation, and adjustment to certain situational factors in order to publicly display emotions that call centre individuals may not necessarily feel (James, 1989). *Surface acting* is defined as having to push down one's authentic expression in favour of an emotional mask (Grandey, 1998). This involves faking, suppressing, or intensifying emotions, which can be achieved behaviourally or cognitively (Totterdell & Holman, 2003). As part of their work, call centre individuals often have to perform surface acting to fulfil their social interactional role requirements. Surface acting has been found to be strongly related to emotional labour, with regulation of emotions believed to be a viable platform for understanding emotional labour (Brotheridge & Lee, 2003; Totterdell & Holman, 2003).

Emotional dissonance is associated with surface acting (Brotheridge & Lee, 2003), and refers to the conflict between emotions genuinely felt and fake emotions expressed. For example, surface acting typically causes emotional dissonance when an individual's real feelings clash with the emotions prescribed by the organisation to be displayed, with performance monitoring likely to heighten this experience (Van Jaarsveld & Poster, 2013).

Research findings show that surface acting is related to emotional exhaustion (Brotheridge & Grandey, 2002; Brotheridge & Lee, 2002, 2003; Totterdell & Holman, 2003). A link between emotional dissonance and emotional exhaustion is also supported (Morris & Feldman, 1997; Nerdinger & Röper, 1999; Schaubroeck & Jones, 2000). These findings support Grandey's (1998) argument that emotional labour leads to exhaustion when effort is needed to suppress genuinely felt emotions. The use of personal resources in an effort to cope with the emotional labour work demand contributes to the development of exhaustion. Brotheridge and Lee (2002) and Demerouti et al. (2001) assert that such efforts to meet surface acting demands drain personal resources and result in being overextended and exhausted.

Job demands promote disengagement via exhaustion as earlier discussed. In line with burnout literature, the study argues that people, who are exhausted because of the emotional demands exerted by surface acting, will disengage from their work in order to reduce the strain experienced, consequently minimising further personal resource loss. This has been evidenced by previous research into individuals' propensity to withdraw from clients when emotional labour is overwhelming (Brotheridge & Grandey, 2002; Brotheridge & Lee, 2002, 2003; Kruml & Geddes, 1998; Totterdell & Holman, 2003).

A study found that when an individual is required to suppress authentic feelings or to display certain positive ones, it can generate what is called emotive dissonance⁶ (giving rise to exhaustion) and emotive deviance⁷ (contributing to the development of disengagement) (Zerbe, 2000).

Given the arguments presented, emotionally demanding roles contribute to the development of burnout (Brotheridge & Grandey, 2002; Cordes & Dougherty, 1993). The lack of call centre job resources and its contribution to the development of burnout is discussed in the next section.

2.4.4 JOB RESOURCES

Job resources refer to the extent to which the job offers resources to the individual (Bakker et al., 2003a). These can include job control, participation in decision making, role clarity, and performance feedback, to name a few (Demerouti & Bakker, 2011; Demerouti et al., 2001).

For the purpose of this study, social support and autonomy are selected to represent job resources as it prominently features in call centre research (e.g., Bakker et al., 2003a; Deery et al., 2002; Hauptfleisch & Uys, 2006; Healy & Bramble, 2003; Holman, 2003; Schaufeli & Bakker, 2004; Sprigg & Jackson, 2006; Sprigg et al., 2003; Varca, 2001). It is worth noting that social support represents job resources at the interpersonal level and autonomy represent job resources at the task level (Schaufeli & Bakker, 2004).

Consistent with earlier arguments, job resources include both objective and subjective dimensions. This study defines subjective resources as social support, operationalised in the form of emotional support. Objective resources are defined as autonomy in this research, operationalised as control in the form of job control and time control (e.g., Bakker et al., 2003a; Demerouti et al., 2001).

The researcher specifically labelled the mentioned job resources in terms of a lack thereof in order to keep with the theme of stressors. This also meant that the researcher had to reverse the scoring key of the different job resource measures to ensure that scores are consistent with the new labels. This implies that a high score on the autonomy measure (for example) would reflect a lack of autonomy. The same applied for lack of co-worker support and lack of supervisor support.

⁶ Emotive dissonance refers to emotional strain experienced.

⁷ Emotive deviance refers to a detachment from people.

2.4.4.1 LACK OF SOCIAL SUPPORT IN CALL CENTRES

Organisational support is widely accepted as a job resource (Jackson, Rothmann & Van de Vijver, 2006; Karatepe, 2009; Rothmann, Mostert & Strydom, 2006). Support provides aid to people (Kraimer, Wayne & Jaworski, 2001), not only in terms of funding, equipment and ideas, but also socio-emotional needs (Eisenberger, Huntington, Hutchison & Sowa, 1986). Maintaining quality and quantity performance expectations can be difficult without organisational support resources.

Social support has been defined as “the availability of helping relationships and the quality of those relationships” (Leavy, 1983, p. 5). Social support may take the form of emotional, informational, appraisal or instrumental support (House, 1981). The present study specifically focuses on the role of emotional support. Emotional support can be described as attachment, social integration, reassurance of worth, reliable alliances, guidance advice, and talking with co-workers about a difficult situation or asking a supervisor to ease demands.

It is recognised that social support can act as a resource to help people better manage tasks during stressful times (Hobfoll & Shirom, 2000). The nature of call centre work can, however, minimise an individual’s chances of building up or having access to such social resources. Call centre work is essentially an individual exercise involving interactions between call handlers and customers, such that team interdependence is not typical of call centre work (Sprigg & Jackson, 2006).

The machine-paced workflow aspect of call centre work and the use of technology to allocate, monitor, and control workflow produce lower levels of co-individual support (Amick & Celentano, 1991). Van Jaarsveld and Poster (2013) also mentioned that opportunity for supervisors to intervene and provide support for call operators is minimal because technology speeds up the work process and decreases opportunities for breaks. The presence of disengagement in the workplace, where people exhibit behaviour of cognitive and emotional detachment, will not provide much opportunity for social support (Hauptfleisch & Uys, 2006). Dysfunctional management practices can also impair social support. Individuals working under unfair and unsupportive management practices have reported feeling replaceable, unappreciated and unsupported, which is in direct conflict with emotional support, which includes listening, expressing concern, showing trust, and boosting self-esteem (Gibson, Ivancevich, Donnelly & Konopaske, 2009; Hauptfleisch & Uys, 2006).

The COR theory and JD-R model highlights the potentially important role of resources such as social support in helping individuals to better cope with job demands. The argument put forward is that people who work in environments characterised by high demands and low

social support have an increased risk of developing burnout as opposed to those who readily have access to such support.

Viswesvaran, Sanchez and Fisher (1999) suggested that perceived support could decrease strain levels (e.g., burnout) at both high and low levels of exposure to stressors. Adding to this, research have shown that those who receive support experience less psychological strains (e.g., anger, depression) during stressful situations compared with those receiving little assistance (e.g., Bansal, Monnier, Hobfoll & Stone, 2000; House, 1981; LaRocco, House & French, 1980). Similarly, Carver, Scheier and Wieintraub (1989) and Cherniss (1980) focused specifically on emotional support and found it to alleviate job stress and psychological strain.

Salami (2011) demonstrated that social support has significant correlations with the dimensions of burnout. Zellars and Perrewé (2001) found evidence for the valuable effect of specifically emotional support as an aid against the dimensions of burnout. These results confirm the findings of previous researchers who reported that individuals who possess higher levels of social support are less burned out (Bonfiglio, 2005; Kim-Wan, 1991). Results from these studies also confirm the work of Thomas and Lankau (2009) who found that workplace social support in the form of high leader-member exchange (LMX) and mentoring served as resources that minimised emotional exhaustion through increased socialisation and decreased role stress. A possible explanation for these findings could be that when individuals face specific job-related difficulty or stress, social support from their supervisors or co-individuals help minimise emotional distress and boost their self-esteem, both of which, in turn, enhance their abilities in coping effectively with job-related problems they are confronted with (Salami, 2011).

Tummers, Janssen, Landeweerd and Houkes (2001) demonstrated that the presence of both a high workload and limited social support can increase levels of experienced emotional exhaustion. Emotional labour research has also revealed that social support as resource variable serves as a buffer to the negative effects of emotional labour (Grandey, 2000). Following the evidence of the importance of social support, a longitudinal intervention study has also demonstrated an improvement in perceived social support to be related to an improvement in emotional exhaustion (Corrigan, McCracken, Edwards, Kommana & Simpatico, 1997).

Social support can therefore be seen as playing a role in the prevention of personal resource loss (Lee & Ashforth, 1996). However, it is important to note that findings on whether job resources are able to moderate (or buffer) the strength of the relationship between job demands and strain are somewhat contradictory (Hu et al., 2011; Peeters & Le Blanc, 2001).

Evidence does, however, clearly indicate that resources have an additive effect (linear relationship) with strain and studies have shown social support to be a predictor of emotional exhaustion (Lee & Ashforth, 1996; Maslach et al., 2001). Consequently, the absence of certain job resources, like social support, can contribute to increasing the total strain experienced, in addition to the strain exerted by job demands, which heighten chances of developing exhaustion.

Research also strongly supports a linear causal relationship between lack of social support and the burnout dimension of disengagement. The JD-R model explains this best by stating that job resources play a motivational role and that lacking such resources can complicate reaching one's work objectives, as a result fostering a state of disengagement (Schaufeli & Bakker, 2004). This process is based on the belief that job resources foster critical psychological states which drive people's behaviour and attitudes, consequently, either stimulating job involvement or disengagement (Bakker et al., 2003a; Hackman & Oldham, 1980; Kahn, 1990).

Studies have shown job resources like social support to be an important predictor of job involvement. In these studies, job involvement was presented in the form of affective commitment⁸ and dedication⁹ (Bakker et al., 2003a).

Affective commitment was shown to be related to job resources like organisational support and transformational leadership in a meta-analysis (Meyer, Stanley, Herscovitch & Topolnytsky, 2002). With regard to dedication, Schaufeli and Bakker (2004) found evidence of a positive relationship between engagement (with dedication as core construct) and job resources (including social support). A study by Bakker et al. (2003a) found job resources (including support by colleagues) to be unique predictors of commitment and dedication. Additionally, Demerouti et al. (2001) found the lack of job resources (including supervisor support) to be predictors of disengagement. These studies consequently provide evidence supporting the absence of social support's ability to promote withdrawal or disengagement.

A state of disengagement can also be promoted via the exhaustion that is created in the absence of social support and presence of high job demands. In this scenario, individuals will disengage in an effort to distance themselves from the perceived sources that cause strain (Healy & Bramble, 2003; Maslach et al., 2001).

⁸ Affective commitment encompasses commitment at organisational level and the individual's desire to remain a member of the organisation, and willingness to focus on helping to achieve its goals (Mowday, Steers & Porter, 1979; Simons & Buitendach, 2013).

⁹ Dedication is more related to the job itself, characterised by a sense of significance, enthusiasm, inspiration and pride (Schaufeli, Salanova, González-Romá & Bakker, 2002).

2.4.4.2 LACK OF AUTONOMY IN CALL CENTRES

Autonomy can be described as the degree to which the job allows the individual freedom, independence and discretion in scheduling the work and in determining the procedures to be used in job completion (Hackman & Oldham, 1975). Alternatively, Gibson et al. (2009) defines autonomy as the individual's satisfaction with the opportunity presented to make independent decisions, set goals, and work without close supervision. They also added to their definition that it permits the individual to have the freedom to make job-related decisions about how to perform the job.

There is evidence indicating that a lack of control (autonomy), leads to psychological strain. A lack of power and influence has been referred to as stress (Gardiner & Tiggemann, 1999). Wall, Jackson, Mullarkey and Parker (1996) demonstrated that the presence of job control (autonomy) has a strong association with lower individual strain. Substantiating these claims, Karasek and Theorell (1990) also reported evidence supporting job control's ability to reduce the adverse effects of high job demands. Theorists argue that individuals have a general drive to control events around them or to demonstrate mastery over their environment (De Charms, 1968; Deci, 1975; White, 1959). The lack of mastery leaves a sense of helplessness and uncertainty with the individual that can breed feelings of stress (McGrath, 1976; Miller, 1980; Seligman, 1975).

Indications are, however, that call centres do not provide autonomy and are highly controlled work environments. Varca (2001) describes a highly controlled environment as one where work is machine paced, and methods for completing tasks are prescribed. He adds to this description that tasks can be simple and monotonous, that work rules determine breaks, and that in many cases it is not possible to gain additional freedom by working at an increased pace. These are all factors that resonate with the characteristics of call centres as described earlier.

Dialogue scripting in a call centre work practice contributes to the creation of a more controlled environment. Research has shown that those who have to follow a set script reported lower levels of autonomy (Sprigg & Jackson, 2006). Dialog scripting forces call handlers to meticulously follow a prescribed dialog when interacting with clients, responding to certain questions and situations as ordered and dictated (Sprigg & Jackson, 2006; Zapf et al., 2003). Consequently, set scripts limit the call operator's ability to respond to unpredictable idiosyncratic circumstances (Deery et al., 2002). Dialog scripting does not only leave individuals helpless in situations where clients do not respond in a certain predicted manner, but incapable of mastering the environment. The presence of dialog scripting thus

restricts the individual's degree of freedom, independence and discretion in determining the procedures to be used in job completion.

Technology has been recognised as central to creating the highly controlled environment that is considered critical to the success of call centres. Workflow integration and the continuous monitoring of call duration, lags between calls, and the number of calls completed in relation to set targets constrain autonomy. Varca (2001) specifically recognises technology's constraining impact on autonomy. Consequently, technology-based systems constrain individual freedom, independence and discretion to set own targets, schedule the work, and to operate without close supervision. Research has reported evidence that machine-paced work contributes to a lack of autonomy (Amick & Celentano, 1991).

It is argued that a lack of autonomy has the capacity to act as a stressor given that most call centre work is salient by default (Varca, 2001). Greenberger and Strasser (1986) have presented a model linking job control to the concept of salience. They mentioned that clients bring a sense of urgency to their interactions with call handlers, making job tasks salient and increasing the need for job control. Similarly, a call centre individual dealing with a frustrated customer complaining about a product error can be a stressful event if the individual does not have the decision discretion (autonomy) to satisfy the customer's need. Consequently, in this study it is argued that a lack of autonomy constrains the freedom of employees, hindering their ability to avoid the negative consequences of harmful stimuli.

Research evidence supports a relationship between low control and negative psychological effects such as strain and exhaustion (Averill, 1973; Karasek, 1979; Miller, 1980). In terms of the COR theory, a state of exhaustion is an outcome where the individual's resources (autonomy resource in this case) are lost or inadequate to cope with the prevailing stressor (Hobfoll, 1989; Hobfoll & Freedy, 1993).

Job resources have been shown to have an additive relationship with strain. This means that in the presence of high demands, the additional lack of autonomy can independently contribute to the total strain experienced. This can prove taxing on the individual's coping ability, increasing chances of suffering from exhaustion.

A lack of autonomy is argued to promote disengagement in a similar fashion as a lack of social support. In both cases it is the absence of job resources' ability to foster a state of withdrawal that is fundamental. Previous discussions included reference to a number of studies that support the existence of a relationship between the lack of job resources and disengagement (e.g. Bakker et al., 2003a; Demerouti et al., 2001; Meyer et al., 2002; Schaufeli & Bakker, 2004). From these studies, Demerouti et al. (2001) and Bakker et al.

(2003a) included autonomy, in the form of job control¹⁰ and time control¹¹, as part of job resources. Furthermore, Hu et al. (2011) also found evidence of the role that the absence of job resources (inclusive of job control) play in promoting job withdrawal. This study consequently believes that the absence of autonomy can promote disengagement.

In line with earlier arguments, disengagement can also be stimulated via the exhaustion created in response to a lack of autonomy and high job demands.

From the presented discussions pertaining to the relationship between call centre job characteristics and the two dimensions of burnout, the following hypotheses are put forward:

Hypothesis 4: Workload will have a direct positive relationship with Exhaustion.

Hypothesis 5: Emotional labour will have a direct positive relationship with Exhaustion.

Hypothesis 6: Lack of supervisor support will have a direct positive relationship with Exhaustion.

Hypothesis 7: Lack of supervisor support will have a direct positive relationship with Disengagement.

Hypothesis 8: Lack of co-worker support will have a direct positive relationship with Exhaustion.

Hypothesis 9: Lack of co-worker support will have a direct positive relationship with Disengagement.

Hypothesis 10: Lack of autonomy will have a direct positive relationship with Exhaustion.

Hypothesis 11: Lack of autonomy will have a direct positive relationship with Disengagement.

Hypothesis 12: Exhaustion will have a direct positive relationship with Disengagement.

¹⁰ Time control and job control relates to Hackman and Oldham's (1975) definition of autonomy and are therefore argued as a justifiable representation of autonomy in the above mentioned studies. Time control refers to the degree to which operators have influence over initiating, pacing and controlling calls (Jackson, Wall, Martin & Davids, 1993; Sprigg & Jackson, 2006).

¹¹ Job control measures the freedom individuals have in carrying out work activities (Zheng, Hu, Xu & He, as cited in Hu et al., 2011), including having the opportunity to decide how to perform the work (Karasek, 1985; Smith & Amick, 1989).

Arguments leading up to this point have provided empirical evidence that motivate the call centre environment's ability to exert a negative influence on PWBW through its capacity to promote burnout. However, as stated earlier, not all people find call centre work stressful and some actually enjoy it. Earlier discussions established that both the individual and the environment form an important part of the nomological network of variables responsible for determining PWBW. With the call centre work characteristics argued to be fixed, the unique characteristics of the individual are proposed as responsible for the observed variance in PWBW under call operators. It was also mentioned earlier that very little research has been done regarding the role of individual capabilities as determinants of PWBW in call centres.

Earlier, the question was asked whether individuals who cope with stressors in a manner that does not lead to burnout have *more* or *different* resources that are able to retard burnout (a state that signifies that resources are depleted). In response to this question, the study differentiated between personal resources, job resources and PsyCap resources. As already discussed, the lack of job resources has been included as stressors in this study. Furthermore, up until this point, discussions pertaining to the role of resources in coping, adapting and thriving in response to stressors, have exclusively focused on personal resources. This research study now introduces PsyCap resources in an attempt to answer the question stated above.

2.5 PSYCHOLOGICAL CAPITAL

Positive organisational behaviour (POB) is concerned with the development of positive psychological strengths that can be measured, developed and managed for performance improvement in today's work (Luthans, 2002b). It is embedded within the positive psychology movement and therefore the pursuit of individual happiness and health is also considered important. Organisational psychologists have recognised that the goal is to realise optimal PWB by building strengths as opposed to ironing out weaknesses (Roberts et al., 2005). For example, focusing on strengths can promote positive emotions, contribute to happiness, and stimulate better physical and mental well-being (Govindji & Linley, 2007; Lyubomirsky, King & Diener, 2005; Proctor, Maltby & Linley, 2011; Seligman, Steen, Park & C. Peterson, 2005).

Primarily, studies have shown that it is possible for psychological strengths to promote PWB. However, this research is interested in whether such strengths can help call operators to protect their PWBW. As introduced by Luthans and colleagues in POB (Luthans & Youssef, 2004; Luthans, Luthans & Luthans, 2004; Luthans, Youssef & Avolio, 2007c), this study proposes psychological capital (PsyCap) as psychological strengths or resources that

individuals can draw from to protect their PWBW when faced with stressors. The study argues that call operators will be able to use their PsyCap resources to cope with stressors in a manner that retards burnout, and consequently protects their PWBW.

2.5.1 PSYCHOLOGICAL CAPITAL DEFINED

According to Lazarus and Folkman (1984b), the role of cognitive processes is critical to understanding the complex interaction between individuals and their surroundings and how such an interaction can potentially lead to stressful events. Avey, Luthans, Smith and Palmer (2010) adds to this observation by stating that the underlying process that links cognitively based positive constructs to PWB can be found in psychological resource theories, and more specifically the emerging construct of PsyCap.

From these arguments, PsyCap can be described as positive psychological strengths or resources which are cognitive in nature, and consists of the factors of hope, self-efficacy, resilience and optimism (Avey et al., 2010). Luthans et al. (2007c, p.3) define PsyCap as:

An individual's positive psychological state of development that is characterised by: (1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals, and when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success.

From the definition it is evident that the core principles represented by the four PsyCap dimensions suggest a motivational propensity to achieve goals and to succeed (Avey et al., 2010). PsyCap as a whole is conceptually (Luthans et al., 2007c), and empirically (Luthans, Avolio, Avey & Norman, 2007b) supported as a higher order construct. Furthermore, the individual PsyCap strengths have also been described as state-like (Luthans et al., 2007b; S.J. Peterson, Luthans, Avolio, Walumbwa & Zhang, 2011), open to development (Luthans, Avey & Patera, 2008; Luthans, Avey, Avolio & S.J Peterson, 2010), and as having a performance impact (Avey et al., 2010). Consequently, the PsyCap dimensions meet the inclusion criteria for POB constructs.

2.5.1.1 HOPE

Hope can largely be delineated in cognitive terms, yielding components such as the realistic assessment of conditions, settings, outcomes and alternatives for coping. When thinking about the meaning of hope, most people can be expected to define it in terms of hoping for the best or a hope that things will turn out well in times of difficulty. However, hope as a positive psychological construct takes on a different meaning.

According to Snyder, Irving and Anderson (1991, p. 287) hope is “a positive motivational state that is based on an interactively derived sense of successful (1) agency (goal-directed energy) and (2) pathways (planning to meet goals).” Based on this definition, hope’s dimension of agency (or willpower) provides the determination to achieve goals, whereas the pathway (or waypower) dimension promotes the creation of successful plans and alternative paths to overcome options that may have been blocked in the process of goal attainment (Youssef & Luthans, 2007).

Besides the commonalities among the four PsyCap factors, significant conceptual distinctions also exist, making the contribution of each factor unique and important. Conceptually, the hope construct’s uniqueness can be said to come from the equal, additive and iterative contributions of its agency and pathways dimensions (Snyder, 1995; Youssef & Luthans, 2007). It is on the basis of this statement that Snyder dispels arguments finding hope to be similar to self-efficacy. Also, while the willpower component of hope is said to be shared with other positive psychological constructs such as optimism, the pathways dimension is believed to be unique to hope (Luthans, 2002b; Snyder, 1995). The pathways dimension allows for the rekindling of agency when faced with barriers to success, as alternative pathways providing new ways of obtaining success have proactively been determined (Youssef & Luthans, 2007). Accordingly, a spiral effect is created where the increased agency or willpower in return motivates the search for more pathways.

Drawing from a considerable body of research from Snyder and colleagues, hope has been shown to have a positive impact on a person’s emotional health and ability to cope with illness and other difficulties (Luthans, 2002b; Zysberg, 2012).

2.5.1.2 OPTIMISM

Optimism has long been an important part of positive psychology (Luthans, 2002b), and more closely associated with this paradigm than the other PsyCap constructs (Luthans et al., 2004). Optimism can be described as the attributions an individual makes and the

explanatory style he or she adopts in response to events (Seligman, 1998). According to Seligman, an optimistic individual attributes successes to personal (their doing), permanent (will always be like this) and pervasive (will positively affect other events in their lives) causes, and failures to external (not their fault), unstable (temporary setback) and situation-specific (problem will not spill over to other situations) issues. Adopting such an attribution style allows individuals to take credit for successes and favourable outcomes, whilst distancing themselves from failures (Luthans & Youssef, 2004). In addition, the mantra of optimism also encompasses an element of positive future expectations and outlook (Cascio & Luthans, 2013). However, realistic (Schneider, 2001), and flexible (C. Peterson, 2000) optimism is important to POB, as being overly optimistic can have its drawbacks, costs and dysfunctions (Luthans, 2002b).

What makes optimism unique from the other PsyCap constructs is the manner in which it allows the individual to frame positive and negative events (Youssef & Luthans, 2007). Where the hope process is based on internal, self-directed agency and pathways, optimism operates within a broader context. The attributional mechanism of optimism does not only include the individual, but also takes into consideration the external environment which includes its people and situation-specific factors (Luthans, 2002b; Seligman, 1998). According to these researchers, this again shifts the focus to the importance of realistic and flexible optimism as it can protect the individual against the disappointments and self-inflicted sense of guilt which is accompanied by failure to attain overly optimistic goals.

Optimism can be a positive force in the workplace and Luthans (2002b) specifically refers to its value when working in the client service industry.

2.5.1.3 RESILIENCE

Resilience was originally defined as an individual's ability to successfully manipulate the environment in order to protect him- or herself against potential threats or adverse events (Rutter, 1987). Luthans (2002b) extended this definition to include 'bouncing back' and defined resilience as "the developable capacity to rebound from adversity, conflict, and failure or even positive events, progress, and increased responsibility" (p.702). This understanding indicates that resilient people have the ability to move on in life after having suffered failure or been exposed to difficulty or stressful circumstances. Resilience signifies the strength and capacity of the individual and his or her coping resources to successfully manage and overcome testing situations (Baumgardner & Crothers, 2010).

Studies by organisational scholars suggest that resilient people can thrive and grow through difficulties and setbacks. As such, this statement gives a new meaning to 'bouncing back'. It implies not only returning to the original state of equilibrium, but moving beyond, which includes higher levels of performance and finding meaning and value in life in the process (Luthans & Youssef, 2004). Resilience seems to achieve the aforementioned via reactive recovery, and by proactive learning and developing as part of conquering challenges.

It would also appear that the reactive and proactive dimensions are what make resilience unique to the other PsyCap constructs. Through the reactive dimension, resilience uniquely identifies that setbacks, stressors and overwhelming positive events can have a destructive impact on even the most hopeful and optimistic individual; hence recognising the need to 'bounce back' (Youssef & Luthans, 2007). They explain that this process enables people to recognise and acknowledge the impact of a threatening situation, allowing them the opportunity to invest the required time, energy and resources to recover, 'rebound' and return to an equilibrium point. The proactive dimension enables individuals to use setbacks as opportunities for growth and development; pushing them beyond the equilibrium point (Luthans, 2002a; Youssef & Luthans, 2007). Coutu (2002) described the common profile of a resilient individual as (1) a staunch acceptance of reality; (2) a deep belief, strengthened by strongly held values, that life is meaningful; and (3) an uncanny ability to improvise and adapt to significant change.

2.5.1.4 SELF-EFFICACY

Bandura's (1997) positive concept of self-efficacy is well known and arguably has the most extensive theoretical foundation and research support amongst the four individual PsyCap constructs (Luthans, 2002b). This leading self-efficacy theorist and researcher is of strong opinion that self-efficacy is the most pervasive and important psychological mechanism of positivity. His motivation for such a claim is that unless people believe they can reach desired results and prevent undesired ones through their own action, they have little incentive to act (Bandura, 2000a). Bandura goes further in saying that irrespective of other motivational factors at play, they are all rooted in the individual's core belief that he or she has the ability to produce sought-after results.

The most popular definition of self-efficacy comes from Bandura's early comments regarding an individual's judgment or belief of "how well one can execute courses of action required to deal with prospective situations" (Bandura, 1982, p. 122). More related to the field of positive organisational behaviour, self-efficacy refers to an individual's "convictions (or confidence) about his or her abilities to mobilise the motivation, cognitive resources, and courses of

action needed to successfully execute a specific task within a given context” (Stajkovic & Luthans, 1998, p. 66). Bandura (2000b) stated that an individual’s perception and interpretation of events determine and influence how difficulty will be addressed as well as how stress symptoms will manifest. Stajkovic and Luthans (1998) mention that self-efficacy explains the process of how people’s beliefs in their ability to affect the environment control their actions in ways that produce desirable outcomes. This means that unless individuals feel that they are able to summon the necessary cognitive resources, motivation, and relevant courses of action to successfully execute a given tasks, he or she is likely to focus on the challenging aspects of the assignment and exert insufficient energy, resulting in failure.

The process and impact of self-efficacy works as follows. Before people select their choices and initiate their effort, they tend to weigh, evaluate and integrate information about their perceived capabilities (Stajkovic & Luthans, 1998). It is important to take note that this initial stage has nothing to do with the individual’s actual resources and abilities, but rather how they perceive their abilities and resources in relation to the requirements of the situation (Luthans, 2002b). As such, a positive evaluation implies a state of self-efficacy or confidence which in turn determines (Bandura, 1986, 1997; Luthans, 2002b):

- Positive choices, for example, basing decisions in response to assignments on his or her levels of self-efficacy or welcoming the challenge of a new task;
- Motivational effort, more effort and motivation will be exerted in pursuit of successful goal accomplishment; and
- Perseverance, where individuals will show more persistence in the face of adversity or even failure.

In addition, research evidence suggests that self-efficacy can also directly affect:

- Positive thought patterns, referring to efficacy influenced self-talks where the individual may say something like “I know that I am able to do this” (Luthans, 2002b).
- Resistance to stress, where individuals with low efficacy can experience stress and burnout because they expect failure, however highly efficacious individuals meet difficulty with a positive attitude, expecting to succeed and are able to resist stressful reactions (Mager, 1992).

2.5.2 THEORETICAL UNDERPINNINGS: PSYCAP AS RESOURCES TO PROTECT PWBW

The core argument of the COR theory is that individuals seek to “obtain, retain and protect resources and that stress occurs when resources are threatened with loss or are lost, or when individuals fail to gain resources after substantive resource investment” (Hobfoll, 2002, p. 312). The importance of resources was attributed to its ability to help with goal accomplishment in the face of adversity. Subsequently, the person’s ability to acquire and maintain valuable resources is crucial as its presence serves as a means for achieving success and an end that includes adapting, coping and well-being (Avey et al., 2010). Lyubomirsky et al. (2005) similarly refer to a relationship between resources and a state of thriving, health and success at work.

In addition to the idea of resources, the critical role of an individual’s beliefs or cognitions is also believed to play an important part in shaping PWB (O’Brien & Major, 2005).

This study proposes both these positions to serve as a theoretical foundation to help understand the role of PsyCap in protecting PWBW. In this regard, it is said that an individual’s cognitions (or beliefs) in combination with his or her resources, together plug into the mechanism responsible for maintaining and protecting individual PWBW (Avey et al., 2010).

According to definitions, PsyCap is resources that are also cognitive in nature. Researchers believe that the four components of hope, resilience, self-efficacy and optimism combine into PsyCap to promote cognitive evaluations of the availability of resources as indicators in the individual’s global assessment of well-being (Avey et al., 2010). Stated differently, these authors said that the four positive psychological resources, as represented by the individual’s level of PsyCap, serve as a cognitive resource and reservoir from which individuals can draw from to influence their well-being. These resources empower people to appraise situations in a more positive, adaptive and opportunistic manner, which in turn can help protect PWBW. A number of research studies support the idea that PsyCap may possibly act as a buffer against stress and burnout (e.g., Avey, Avolio, Crossly & Luthans, 2009a; Avey, Luthans & Jensen, 2009b; Fredrickson, Tugade, Waugh & Larkin, 2003).

2.5.3 PSYCAP AND PWBW IN CALL CENTRES

It is argued that PsyCap enables individuals to cope with stressors in a manner that will retard the development of burnout, and in so doing protect PWBW. PsyCap’s involvement in

this hypothesised process is argued to consist of two processes which can be best explained by the theory of psychological stress and coping¹². This theory identifies *cognitive appraisal* and *coping* as two important processes that take place during the stressful person-environment interaction and its outcomes.

Firstly, the study argues that PsyCap resources can protect PWBW via its ability to influence the cognitive appraisal process. Cognitive appraisal influences the manner in which people appraise a situation and affect how they feel about it (Folkman & Lazarus, 1985). The cognitive appraisal is said to comprise of two processes, a primary appraisal (concerned with judgements on the significance of the encounter) and a secondary appraisal (concerned with evaluations regarding the coping resources and options available to the individual). These two interdependent appraisal processes work together to produce the final cognitive appraisal exercised by an individual in response to the stressor condition (Folkman, Lazarus, Dunkel-Schetter, DeLongis & Gruen, 1986). Consequently, it is argued that PsyCap serves as resources that can influence the degree to which the individual appraises a situation to be threatening or not, find it stressful, less stressful, neutral, or positive etc.

Secondly, the study argues that PsyCap resources can protect PWBW via its ability to contribute towards the coping process. Coping refers to the individual's cognitive and behavioural efforts to manage the troubled employee-work relationship (Folkman & Lazarus, 1985). It is argued that PsyCap has the ability to act as the strengths or resources required for individuals to cope with and reduce the strain experienced. Importantly, situations that are not appraised as threatening typically do not require coping.

It is believed that PsyCap's ability to influence the cognitive appraisal and coping processes is encapsulated in its capacity to act as a cognitive resource and reservoir from which individuals can draw from to influence their environment. For example, favourable views regarding the reservoir of resources could influence the perceived significance of the stressor situation. In the second instance, PsyCap resources can assist individuals to better cope with the experienced strain; via adaptive behaviour etc.

In the next section, PsyCap resources' ability to empower individuals to overcome and cope with call centre stressors will be discussed; as it specifically relates to the cognitive appraisal process and the coping process.

¹² This theory of psychological stress and coping was developed by Lazarus and colleagues (e.g., Coyne & Lazarus, 1980; Lazarus & DeLongis, 1983; Lazarus & Folkman, 1984a, 1984b; Lazarus, 1966, 1981; Lazarus, Averill & Opton, 1970).

2.5.3.1 PSYCAP AND STRESSORS – COGNITIVE APPRAISAL

The four dimensions of PsyCap are argued to contribute towards promoting positive cognitive beliefs that is internalised by the individual. These beliefs are motivated to play a crucial role in determining people's cognitive appraisal of stressors present. In this regard, the PsyCap dimensions can be said to form a unique set of PsyCap *spectacles* which allows people to view the external environment (stressors) differently to others. This study argues that if the call centre stressors are perceived as cognitively less threatening its ability to promote burnout via strain outcomes will be inhibited.

Self-efficacy is seen as essential to developing PWBW protecting beliefs or cognitions. Bandura (2000a) ascribes the supreme importance of self-efficacy to its function and role as a general underlying belief in oneself to overcome and successfully deal with challenges. This level of confidence is believed to influence whether individuals choose to engage problem situations or not, even before considering other strengths at their disposal. While other strengths also play an important role, this study believes that self-efficacy is at the core of the appraisal process. Persons with strong self-efficacy will have confidence in their strengths and a self-belief to utilise these strengths effectively. High self-efficacy individuals possess a mind-set which enables them to exercise positive choices and take on challenges. Self-efficacy's significance and all-persuasive influence is also evident in its ability to reinforce and promote the other PsyCap dimensions (Cascio & Luthans, 2013).

Hope is said to protect people against perceptions of unpredictability, uncontrollability and vulnerability (Snyder, 2002). People high in hope not only believe in having the ability to produce more than one way of achieving tasks, but also foster favourable views concerning their capability to successfully achieve goals along the chosen pathways (Snyder, Cheavens & Sympson, 1997). The hope process therefore empowers individuals to change their perception of barriers to success, viewing such situations rather as a challenge and opportunity to learn from (Luthans, 2002b). The power of hope is typically reflected in the saying that goes; 'where there is a will, there is a way'.

The cognitive beliefs held by hopeful individuals enable them to be less anxious in general, especially in stressful and evaluative situations (Luthans, 2002b; Snyder et al., 1997; Snyder et al., 2000), such as call centre performance monitoring conditions. The high hope individual also perceives that he or she has social support readily available (Snyder et al., 1997; Snyder & Cheavens, 1997; Vaux et al., 1986). This internalised belief may alter an individual's cognitive appraisal regarding situations of low social support.

Optimism reinforces a belief of positive future expectations and outlook, and enables consideration of both internal and external conditions in situational assessments to identify when failure is an outcome beyond control (Cascio & Luthans, 2013; Youssef & Luthans, 2007). Optimism encompasses appreciating how things are, and being content and happy about both the good things and those out of one's control (Luthans & Youssef, 2004). The internalised beliefs of optimism allow people to frame events differently, perceiving setbacks as challenges/opportunities that can lead to success (Luthans, Avolio & Walumbwa, 2005).

According to research, an optimist is more satisfied in general, have high morale (Luthans, 2002b), and is able to persevere through adversity (Stajkovic & Luthans, 1998). This is interesting as high morale has been associated with favourable perceptions regarding workload (e.g., Armstrong et al., 2003; Hart & Wearing, 1995). Furthermore, removing oneself from failures caused by things out of one's control could also alter the cognitive appraisal of stressors. For example, optimism can allow individuals to distance themselves from the stress and fear of failure imposed by restrictions on job resources. A former Robben Island prisoner, in a quote where two prisoners looked out of a prison cell, provided an idea of the appraisal power of optimism in situations of unprecedented control and regulation. He said that "one saw stars and the other saw bars" (Kathrada, as cited in Cascio & Luthans, 2013, p. 58).

The resilient individual places a positive value on risk factors, rather than perceiving such circumstances as threats with negative outcomes, or reduced positive ones (Masten, 2001). Resilience enables individuals to recognise the need for flexibility, adaptation and improvisation in situations of change and uncertainty (Youssef & Luthans, 2007). Unlike hope and optimism, resilience uniquely allows individuals to search for and find meaning despite circumstances not allowing, planning, preparation, logical interpretation, or rationalisation (Coutu, 2002). Therefore, resilient individuals hold cognitive beliefs that allow them to perceive difficulty as challenges and opportunities worth pursuing in a quest to grow, develop, and to find meaning in life.

The cognitive beliefs as fostered by the four dimensions of PsyCap are argued as the building blocks of the metaphorical *spectacles* which empowers individuals to appraise stressors differently; more positive, opportunistic, adaptive, and as providing meaning in life.

PsyCap is also believed to affect the individual's cognitive appraisal of stressors via its ability to promote affective commitment and dedication to the company's value and goals.

A number of studies confirm optimism's relationship with engagement, of which dedication is a sub-dimension (Halbesleben, 2010; Medlin & Faulk, 2011; Simons & Buitendach, 2013;

Tombaugh, 2005; Xanthopoulou, Bakker, Heuven, Demerouti & Schaufeli, 2008). A relationship between optimism and affective commitment has also been found (Bressler, 2010; McColl-Kennedy & Anderson, 2005; Simons & Buitendach, 2013). The growth and development aspect of resilience is proposed to cause individuals to show higher overall commitment to the organisation, even though they may experience unfavourable work situations (Youssef & Luthans, 2008). Empirical evidence support this claim showing that resilience has a relationship with both commitment and engagement, as well as supporting a positive association between resilience and work happiness (Luthans et al., 2007b; Youssef & Luthans, 2007). Furthermore, research, which included a South African study, has found self-efficacy to be related to work engagement (Halbesleben, 2010; Roux, 2010; Xanthopoulou et al., 2008). Research findings also supported a link between self-efficacy and job satisfaction and organisational commitment (Luthans & Youssef, 2004). Lastly, the dimension of hope has been shown to have a positive influence on organisational commitment, job satisfaction and work happiness (Youssef & Luthans, 2007).

The dedicated and organisationally committed behaviour promoted by PsyCap suggests that these individuals believe in, identify with, and accept the company goals and values. These individuals are committed to perform well and wish to remain a member of the organisation. They are likely to view call centre stressors rather as challenges and opportunities to contribute towards helping the organisation achieve its goals. Job demands specifically may even be seen as a duty or a unique responsibility bestowed upon them, as opposed to a stressor. Stimulated commitment and dedication may even combat the potential of a lack of job resources' to promote disengagement.

PsyCap resources are argued to influence the cognitive appraisal of stressors via allowing individuals to accept the environment and its goals, and by changing their perception of the threat. PsyCap, via the two mentioned processes, can reduce the potency/strength of the stressors, and subsequently the level of strain experienced.

Given the arguments formulated above, the following hypotheses are presented:

Hypothesis 13: PsyCap will have a direct negative relationship with Workload.

Hypothesis 14: PsyCap will have a direct negative relationship with Emotional Labour.

Hypothesis 15: PsyCap will have a direct negative relationship with Lack of supervisor support.

Hypothesis 16: PsyCap will have a direct negative relationship with Lack of co-worker support.

Hypothesis 17: PsyCap will have a direct negative relationship with Lack of autonomy.

The next section will elaborate on PsyCap's role in helping individuals cope with the strain experienced.

2.5.3.2 PSYCAP AND STRESSORS – COPING

Where the situation is appraised as threatening (or as per the COR theory, exceeding one's resources), the coping process is concerned with managing and overcoming the strain experienced. Here PsyCap resources are argued to help restore the imbalance in the relationship between the stressor and the required resources to cope; in order to retard the development of burnout.

Bandura (2000b) stated that an individual's perception and interpretation of events determine how difficulty will be addressed and how stress symptoms will manifest. Self-efficacy is therefore crucial in the process of coping as it has a major influence on preparing action. It is said to determine whether instrumental actions will be initiated, the length of perseverance, and the levels of energy expended (Schwarzer & Hallum, 2008). Self-efficacy is believed to promote favourable evaluations of stressors, unlocking a wide range of positive behaviours that help overcome threats and manage stress. Self-efficacy explains how people's beliefs in their ability to influence the external environment control their actions in ways that produce sought after outcomes. When faced with adversity, self-efficacy empowers individuals to take action and to initiate the coping process. Without self-efficacy the coping process could be passive and individuals may feel helpless and pessimistic, with little motivation to initiate and sustain the action required to overcome threats and manage stress. Also, self-efficacy's ability to contribute to each of the other PsyCap strengths further motivates its important role in helping people to overcome stressors

Whilst putting a positive value on risks, resilience also alerts people to potential dangers. It is in how resilience awakens in individuals the urgency to act, in order to survive and bounce back, that it contributes towards the coping process.

The study argues that in situations of high workload and emotional labour, individuals can draw from their resilience resource to cope and retard exhaustion. Fredrickson's (2001, 2003) broaden-and-build theory explains this process best. According to this theory, positive emotions all share the ability to broaden people's momentary thought-action repertoires and build their resources through an array of thoughts and actions that come to mind. This means that positive emotions are able to build inventories of intellectual, physical, social,

and psychological resources. Given that PsyCap has been shown to promote positive emotions (Avey, Wernsing & Luthans, 2008), it is argued that the positivity generated by resilience under difficult circumstances will lead to a process that broadens and builds the individual's spectrum of problem solving skills and adaptive mechanisms (Youssef & Luthans, 2007). This process proposes that resilience can be responsible for starting upward spirals of performance, adaptation, and well-being, even when enduring hardship (Fredrickson & Joiner, 2002). The resources built as part of this upward spiral can then be invested and utilised in resilience's reactive (coping) dimension.

The size of an individual's resource pool and ability to replace lost resources have been highlighted as determining factors in the experience of strain (Hobfoll & Shirom, 2000). Resilience is argued to allow individuals to react towards job demands in a manner that enables resource enhancement, making more resources available to invest in coping and to replace those lost; retarding the development of exhaustion in the process. Philippe, Lecours and Beaulieu-Pelletier (2008) found evidence associating resilience with positive emotions *especially* when the individual is experiencing a taxing event. This confirms resilience's capability to 'kick in' when the going gets tough.

In their collective contribution to the effectiveness of resilience, the other PsyCap dimensions also help combat the impact of job demands on exhaustion. High PsyCap individuals are said to better adapt and 'bounce back' when facing difficulty (Luthans, Avey, Avolio, Norman & Combs, 2006). Hope and optimism can build resilience via the development of coping resources in the form of social support and risk management strategies (contingency planning via pathway creation) (Youssef & Luthans, 2007). Self-efficacy has also been found to strengthen people's resilience capacity when facing difficulty (Cascio & Luthans, 2013). It is said that high self-efficacy individuals, when faced with setbacks, recover more quickly and remain committed to their goals (Schwarzer & Hallum, 2008).

Similar to resilience, hope, via triggering upward spirals of resource enhancement, is argued to help people cope with a lack of social support and to consequently retard disengagement. As a result of their optimistic mind-set concerning goal achievement, hopeful individuals is believed to feel good about themselves. People who feel good about themselves may be socially more active (Buunk & Hoorens, 1992), which in turn can stimulate and reinforce positive supervisory and co-worker behaviour. Research has confirmed the high hope individual's propensity to display more socially active and engaging behaviour, describing them as enjoying social interaction and collaborative relationships, and being able to better understand the perspectives of others (Rieger, 1993; Snyder et al., 1997; Snyder et al., 2000). As such, the high hope individual's social behaviour can potentially unlock social

support from management and co-workers which would otherwise not have been available. Their social behaviour is argued to create alternative pathways for gaining social support.

In another example, Snyder et al. (1997) argues that groups form due to common goals, and that its unified functioning is based on the members' shared pathways and willpower to achieve the objective. This study argues that under difficult circumstances, people are likely to adopt someone else's pathways and goals should that person be perceived as successful in overcoming the mutual barriers to success. Here, a group is still formed with hope as foundation, however group functioning is based on that of the high hope individual. This scenario is based on people's awareness that working together increases chances for survival. Here the individual utilised his or her hope resource to establish a group of people working together to survive, and providing social support in the process of goal attainment.

The argument is that hope, via its ability to build social support, is capable of reducing strain experienced. This also means that the individual will be able to retard the development of disengagement, which is typically fostered by a lack of job resources, such as social support.

The other PsyCap dimensions also contribute to minimising lack of social support's impact on disengagement via their ability to build and reinforce hope. Self-efficacy is mentioned as playing an important role in creating goal aspirations and attainment (Bandura, 2000a; Locke & Latham, 1990). Hope and optimism are also argued to work together. Optimism is believed to form a vital part of an individual's resource pool as an optimistic approach to stressful situations can potentially have a positive impact on goal achievement (Simons & Buitendach, 2013). Luthans (2002b) specifically refers to the value of optimism when working in the client service industry. Earlier it was argued that successful individuals will receive social support as people adopt the pathways and goals of those who overcome diversity. The argument proposed here is that optimism can indirectly, via its ability to positively influence goal achievement, contribute to creating more social support. This process is very much in line with Fredrickson's (2001, 2003) broaden-and-build theory of positive emotions. The optimistic and hopeful individual will receive social support because people will support them (Myburgh, personal communication, May 22, 2014).

It is hypothesised that PsyCap can minimise the ability of stressors to develop exhaustion and disengagement via its capacity to promote quality employee-client relationships. The overall dedicated and committed behaviour stimulated by PsyCap, including the social behavioural aspect of hope, can lead to better client interaction which includes improved rapport building and a deeper understanding of their position. Such client relationships can keep difficulties to a minimum and foster genuine empathy, reducing required emotional labour. Less abusive interactions can also reduce the dependency on strong and readily

available social support. Lack of autonomy may be less important in situations where client interactions are smooth, consequently, reducing its ability to foster disengagement. Furthermore, where interactions are genuine, friendly and uncomplicated, workload may possibly be experienced as less exhaustive.

It is believed that the four PsyCap resources will build positive behavioural patterns which enable individuals to cope with stressors in a manner where they perceive the situation different (cognitive appraisal) and where drawing from own PsyCap resources allows them to show perseverance (coping process). In this manner, PsyCap is argued to retard the ability of call centre stressors to promote disengagement and exhaustion (burnout), and in doing so, protect PWBW.

Given the arguments unfolded above, the following hypotheses are presented:

Hypothesis 18: PsyCap will moderate the relationship between Workload and Exhaustion.

Hypothesis 19: PsyCap will moderate the relationship between Emotional labour and Exhaustion.

Hypothesis 20: PsyCap will moderate the relationship between Lack of supervisor support and Exhaustion.

Hypothesis 21: PsyCap will moderate the relationship between Lack of supervisor support and Disengagement.

Hypothesis 22: PsyCap will moderate the relationship between Lack of co-worker support and Exhaustion.

Hypothesis 23: PsyCap will moderate the relationship between Lack of co-worker support and Disengagement.

Hypothesis 24: PsyCap will moderate the relationship between Lack of autonomy and Exhaustion.

Hypothesis 25: PsyCap will moderate the relationship between Lack of autonomy and Disengagement.

Overall it is expected for individuals with significant levels of PsyCap to experience better PWBW.

2.6 SUMMARY

The call centre work environment has been shown to pose a threat to the PWBW of call operators. PWBW is a product of the interaction between the environment and the individual. The call centre environment is however fixed and changing it to improve individual PWBW is likely to compromise the effectivity/success of such centres. This chapter investigated the role of the unique individual's resources in determining PWBW in call centres. Research indicates that PsyCap resources have the potential to act as a buffer against call centre stressors and to reduce the strain experienced. Accordingly, it is predicted that individuals with PsyCap are able to retard the development of disengagement and exhaustion (burnout) and to protect their PWBW.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

The purpose of this research was to develop a parsimonious model that depicts a nomological network of latent variables that account for variance in the psychological well-being of individuals working in call centres. The researcher argued that such a coherent theoretical framework is envisaged to have both heuristic and applied utility. The benefits of the research may be that organisations could obtain more insight into how the individual and the work environment interacts which can aid the development of human resource interventions to protect the PWB of individuals in call centres. It is argued that the development of the state-like construct of PsyCap can be facilitated through human resources interventions such as training and development (Luthans et al., 2006). Such interventions could potentially facilitate the skills and coping strategies required in the call centre environment to protect individual PWBW and can aid in the selection of call centre employees by including PsyCap profiles in order to ensure sustainability in the call centre environment.

The previous chapter identified the relationships that may exist between PsyCap, Stressors, Burnout and PWBW, among South African call centre employees, as a plausible explanation of the observed variance in individual PWB.

3.2 RESEARCH AIM, OBJECTIVES AND QUESTIONS

The conceptual and empirical review conceptualised latent variables from extant research that directly or indirectly affect PWBW. This theorising argued that these latent variables and the manner in which they structurally combine culminate in a proposed model logically capable of accounting for PWBW in call centres. This is broadly illustrated in Figure 3.1.

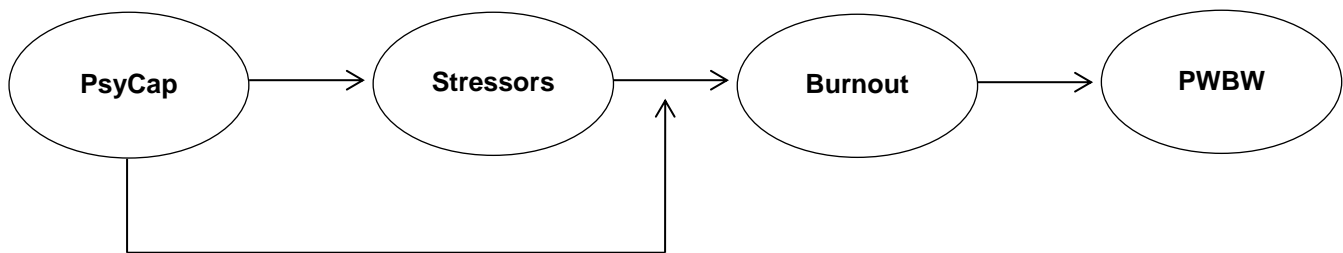


Figure 3.1. Conceptual Model of PWBW in Call Centres

The arguments put forward gave rise to the question whether the explanatory structural model provides a valid description of the psychological mechanism that underpins variance in PWBW and sought to answer the following question; are the proposed constructs related to each other a plausible model to account for individual differences in PWBW in call centres?

In the present research study, the demonstration of causality does not lie in the analytical methods chosen but refers to the theoretical justification provided to support the analyses (Tabachnick & Fidell, 2001; Ullman, 1998). Hair, Anderson, Tatham and Black (1998) state that causal relationships can include meanings or forms, ranging from strict causation to the less well-defined relationships encountered in behavioural research.

Based on the theoretical assertion and empirical research the structural model allows for the specification of the regression structure among the indicators and, accordingly, specifies the manner by which the proposed exogenous and endogenous variables directly or indirectly influence or 'cause' changes in the values of the subsequent variables in the model.

Given the above, the research question attempts to achieve the following research objectives:

- To test the proposed structural model that will best explain the influence among the various variables;
- test the fit of the model;
- evaluate the significance of the hypothesised paths in the model; and

- consider the modification of paths in the model by inspecting the modification indices and how the possible modification of paths is supported theoretically.

3.3 RESEARCH HYPOTHESES

The conceptual and empirical evidence of earlier chapters afforded the researcher an opportunity to formulate plausible specific paths linking latent variables that have a bearing on the construct of individual PWBW. The overarching substantive research hypothesis (Hypothesis 1) of this study was that the *structural model of PWBW in Call Centres*, provides a valid account of the psychological processes responsible for variance in individual PWBW in call centres. This required the study to test the comprehensive structural model as an entity. Structural Equation Modelling (SEM) will be used to meet this aim as it can simultaneously estimate multiple regression equations in a single framework.

The standard notations were used to identify the latent variables and measurement indicators (e.g., Diamantopoulos & Siguaw, 2000; Jöreskog & Sörbom, 2006). Exogenous variables were represented by ξ (ksi's) and its indicators by X's. Endogenous variables were represented by η (eta's) with its indicators represented by Y's. Table 3.1 present details of the variables, indicators and notations. Details on the creation of the various indicators used to represent each of the unobserved latent variables are elaborated on in chapter four.

Table 3.1

Latent Variables and its Indicators

Exogenous variables	Indicators
PSYCAP (ξ_1)	OPT (X1), SE (X2), HPE (X3) and RES (X4)
PSYCAP*WRKLD (ξ_2) ^a	PSY*WRKLD1 (X5) – PSY*WRKLD12 (X16)
PSYCAP*EMOLAB (ξ_3) ^a	PSY*EMOLAB1 (X17) - PSY*EMOLAB12 (X28)
PSYCAP*LOSS (ξ_4) ^a	PSY*LOSS1 (X29) – PSY*LOSS12 (X40)
PSYCAP*LOCS (ξ_5) ^a	PSY*LOCS1 (X41) – PSY*LOCS12 (X52)
PSYCAP*LOA (ξ_6) ^a	PSY*LOA1 (X53) – PSY*LOA12 (X64)
Endogenous variables	Indicators
PWBW (η_1)	IFAW (Y1), TAW (Y2), FOCW (Y3), PRAW (Y4) and DFIW (Y5)
EXH (η_2)	EXH1 (Y6) and EXH2 (Y7)
DIS (η_3)	DIS1 (Y8) and DIS2 (Y9)
WRKLD (η_4)	WRKLD1 (Y10), WRKLD2 (Y11) and WRKLD3 (Y12)
EMOLAB (η_5)	EMOLB1 (Y13), EMOLB2 (Y14) and EMOLB3 (Y15)
LOSS (η_6)	SSP1 (Y16), SSP2 (Y17) and SSP3 (Y18)
LOCS (η_7)	CSP1 (Y19), CSP2 (Y20) and CSP3 (Y21)
LOA (η_8)	AUT1 (Y22), AUT2 (Y23) and AUT3 (Y24)

Note. PSYCAP = Psychological capital; PWBW = Psychological well-being at work; EXH = Exhaustion; DIS = Disengagement; WRKLD = Workload; EMOLAB = Emotional labour; LOSS = Lack of supervisor support; LOCS = Lack of co-worker support; LOA = Lack of autonomy.

^aFive exogenous variables were created as a product of the interaction effects between PSYCAP and each of the individual stressors. For each of the interaction effects, indicators are to be calculated from all possible combinations of the observed latent variables involved in the specified interaction effect. Accordingly, each interaction effect would require twelve indicator variables.

The proposed structural model of PWBW in Call Centres is presented in Figure 3.2 below. Following this is a discussion on the study's specific research hypotheses as graphically depicted in the structural model.

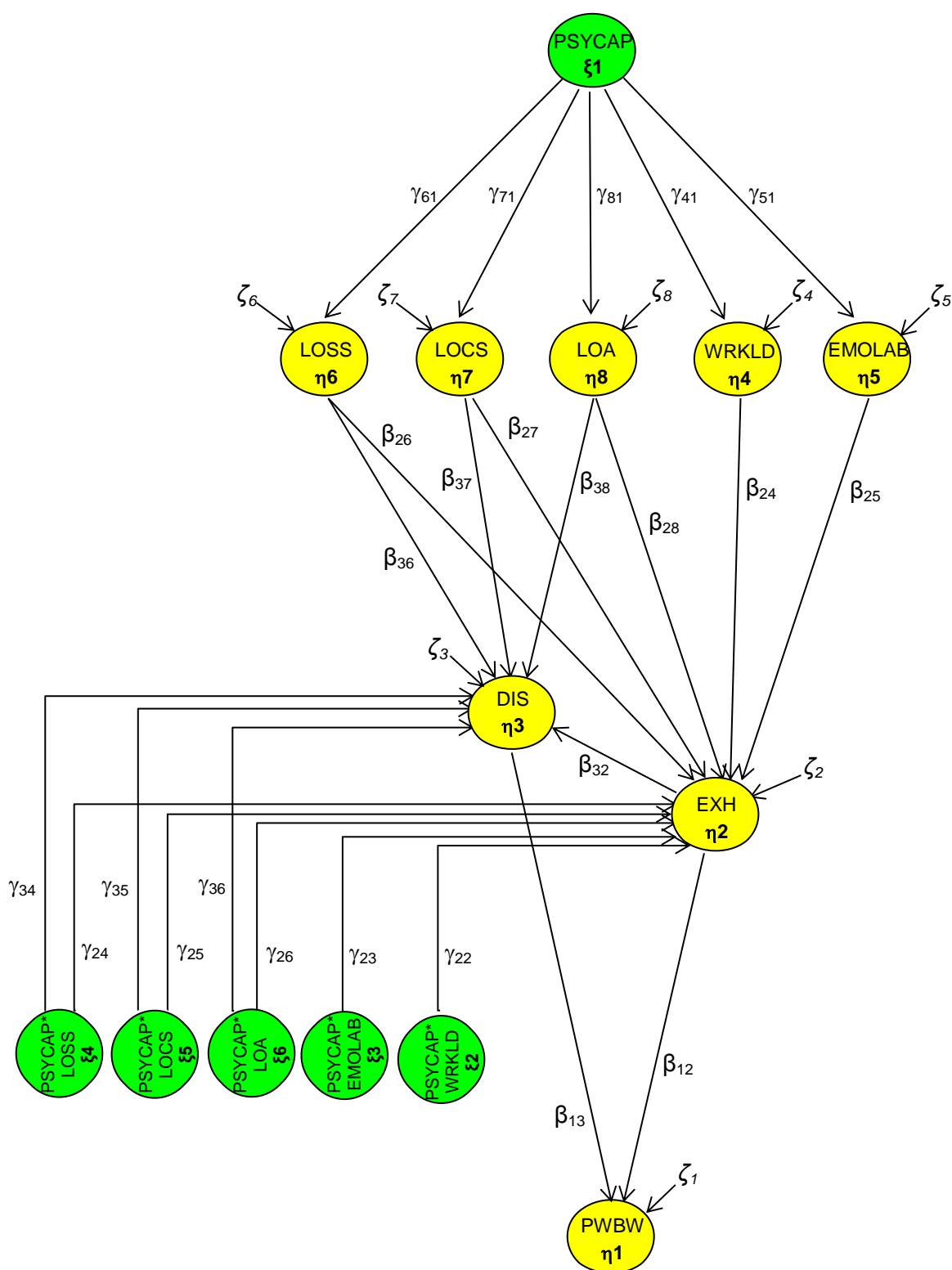


Figure 3.2. The Proposed Structural Model of PWBW in Call Centres

The ideal is to find an exact fit, i.e. a model that perfectly explains the co-variances between the indicator variables in the population. The overarching substantive research hypothesis can be translated into the following exact fit null hypothesis (**Hypothesis 1a**):

$$H_{01a}: \text{RMSEA} = 0$$

$$H_{a1a}: \text{RMSEA} > 0$$

However, exact fit is an unlikely possibility as structural models are only approximations of reality. Therefore, a close model fit will be considered. The overarching substantive research hypothesis can be translated into the following close fit null hypothesis (**Hypothesis 1b**):

$$H_{01b}: \text{RMSEA} \leq .05$$

$$H_{a1b}: \text{RMSEA} > .05$$

In the event that a close fit is not obtained, the null hypothesis of reasonable fit will be tested. The overarching substantive research hypothesis can be translated into the following reasonable fit null hypothesis (**Hypothesis 1c**):

$$H_{01c}: \text{RMSEA} \leq .08$$

$$H_{a1c}: \text{RMSEA} > .08$$

The overarching substantive hypothesis was dissected into 24 more detailed path-specific hypotheses, as listed below, and will be tested if the model fits the data at least reasonably well.

Hypothesis 2: In the proposed PWBW in Call Centres structural model it is hypothesised that Exhaustion (η_2) will have a direct negative relationship with PWBW (η_1).

$$H_{02}: \beta_{12}=0$$

$$H_{a2}: \beta_{12}<0$$

Hypothesis 3: In the proposed PWBW in Call Centres structural model it is hypothesised that Disengagement (η_3) will have a direct negative relationship with PWBW (η_1).

$$H_{03}: \beta_{13}=0$$

$$H_{a3}: \beta_{13}<0$$

Hypothesis 4: In the proposed PWBW in call centres structural model it is hypothesised that Workload (η_4) will have a direct positive relationship with Exhaustion (η_2).

$$H_{04}: \beta_{24}=0$$

$$H_{a4}: \beta_{24}>0$$

Hypothesis 5: In the proposed PWBW in Call Centres structural model it is hypothesised that Emotional labour (η_5) will have a direct positive relationship with Exhaustion (η_2).

$$H_{05}: \beta_{25}=0$$

$$H_{a5}: \beta_{25}>0$$

Hypothesis 6: In the proposed PWBW in Call Centres structural model it is hypothesised that Lack of supervisor support (η_6) will have a direct positive relationship with Exhaustion (η_2).

$$H_{06}: \beta_{26}=0$$

$$H_{a6}: \beta_{26}>0$$

Hypothesis 7: In the proposed PWBW in Call Centres structural model it is hypothesised that Lack of supervisor support (η_6) will have a direct positive relationship with Disengagement (η_3).

$$H_{07}: \beta_{36}=0$$

$$H_{a7}: \beta_{36}>0$$

Hypothesis 8: In the proposed PWBW in Call Centres structural model it is hypothesised that Lack of co-worker support (η_7) will have a direct positive relationship with Exhaustion (η_2).

$$H_{08}: \beta_{27}=0$$

$$H_{a8}: \beta_{27}>0$$

Hypothesis 9: In the proposed PWBW in Call Centres structural model it is hypothesised that Lack of co-worker support (η_7) will have a direct positive relationship with Disengagement (η_3).

$$H_{09}: \beta_{37}=0$$

$$H_{a9}: \beta_{37}>0$$

Hypothesis 10: In the proposed PWBW in Call Centres structural model it is hypothesised that Lack of autonomy (η_8) will have a direct positive relationship with Exhaustion (η_2).

$$H_{010}: \beta_{28}=0$$

$$H_{a10}: \beta_{28}>0$$

Hypothesis 11: In the proposed PWBW in Call Centres structural model it is hypothesised that Lack of autonomy ($\eta 8$) will have a direct positive relationship with Disengagement ($\eta 3$).

$$H_{011}: \beta_{38}=0$$

$$H_{a11}: \beta_{38}>0$$

Hypothesis 12: In the proposed PWBW in Call Centres structural model it is hypothesised that Exhaustion ($\eta 2$) will have a direct positive relationship with Disengagement ($\eta 3$).

$$H_{012}: \beta_{32}=0$$

$$H_{a12}: \beta_{32}>0$$

Hypothesis 13: In the proposed PWBW in Call Centres structural model it is hypothesised that PsyCap ($\xi 1$) will have a direct negative relationship with Workload ($\eta 4$).

$$H_{013}: \gamma_{41}=0$$

$$H_{a13}: \gamma_{41}<0$$

Hypothesis 14: In the proposed PWBW in Call Centres structural model it is hypothesised that PsyCap ($\xi 1$) will have a direct negative relationship with Emotional labour ($\eta 5$).

$$H_{014}: \gamma_{51}=0$$

$$H_{a14}: \gamma_{51}<0$$

Hypothesis 15: In the proposed PWBW in Call Centres structural model it is hypothesised that PsyCap ($\xi 1$) will have a direct negative relationship with Lack of supervisor support ($\eta 6$).

$$H_{015}: \gamma_{61}=0$$

$$H_{a15}: \gamma_{61}<0$$

Hypothesis 16: In the proposed PWBW in Call Centres structural model it is hypothesised that PsyCap ($\xi 1$) will have a direct negative relationship with Lack of co-worker support ($\eta 7$).

$$H_{016}: \gamma_{71}=0$$

$$H_{a16}: \gamma_{71}<0$$

Hypothesis 17: In the proposed PWBW in Call Centres structural model it is hypothesised that PsyCap (ξ_1) will have a direct negative relationship with Lack of autonomy (η_8).

$$H_{017}: \gamma_{81}=0$$

$$H_{a17}: \gamma_{81}<0$$

Hypothesis 18: In the proposed PWBW in Call Centres structural model it is hypothesised that the interaction effect between PsyCap and Workload (PSYCAP*WRKLD) (ξ_2) negatively influences Exhaustion (η_2). Stated differently, it is hypothesised that PsyCap moderates the relationship between Workload and Exhaustion.

$$H_{018}: \gamma_{22}=0$$

$$H_{a18}: \gamma_{62}<0$$

Hypothesis 19: In the proposed PWBW in Call Centres structural model it is hypothesised that the interaction effect between PsyCap and Emotional labour (PSYCAP*EMOLAB) (ξ_3) negatively influences Exhaustion (η_2). Stated differently, it is hypothesised that PsyCap moderates the relationship between Emotional labour and Exhaustion.

$$H_{019}: \gamma_{23}=0$$

$$H_{a19}: \gamma_{23}<0$$

Hypothesis 20: In the proposed PWBW in Call Centres structural model it is hypothesised that the interaction effect between PsyCap and Lack of supervisor support (PSYCAP*LOSS) (ξ_4) negatively influences Exhaustion (η_2). Stated differently, it is hypothesised that PsyCap moderates the relationship between Lack of supervisor support and Exhaustion.

$$H_{020}: \gamma_{24}=0$$

$$H_{a20}: \gamma_{24}<0$$

Hypothesis 21: In the proposed PWBW in Call Centres structural model it is hypothesised that the interaction effect between PsyCap and Lack of supervisor support (PSYCAP*LOSS) (ξ_4) negatively influences Disengagement (η_3). Stated differently, it is hypothesised that PsyCap moderates the relationship between Lack of supervisor support and Disengagement.

$$H_{021}: \gamma_{34}=0$$

$$H_{a21}: \gamma_{34} < 0$$

Hypothesis 22: In the proposed PWBW in Call Centres structural model it is hypothesised that the interaction effect between PsyCap and Lack of co-worker support (PSYCAP*LOCS) (ξ_5) negatively influences Exhaustion (η_2). Stated differently, it is hypothesised that PsyCap moderates the relationship between Lack of co-worker support and Exhaustion.

$$H_{022}: \gamma_{25} = 0$$

$$H_{a22}: \gamma_{25} < 0$$

Hypothesis 23: In the proposed PWBW in Call Centres structural model it is hypothesised that the interaction effect between PsyCap and Lack of co-worker support (PSYCAP*LOCS) (ξ_5) negatively influences Disengagement (η_3). Stated differently, it is hypothesised that PsyCap moderates the relationship between Lack of co-worker support and Disengagement.

$$H_{023}: \gamma_{35} = 0$$

$$H_{a23}: \gamma_{35} < 0$$

Hypothesis 24: In the proposed PWBW in Call Centres structural model it is hypothesised that the interaction effect between PsyCap and Lack of autonomy (PSYCAP*LOA) (ξ_6) negatively influences Exhaustion (η_2). Stated differently, it is hypothesised that PsyCap moderates the relationship between Lack of autonomy and Exhaustion.

$$H_{024}: \gamma_{26} = 0$$

$$H_{a24}: \gamma_{26} < 0$$

Hypothesis 25: In the proposed PWBW in Call Centres structural model it is hypothesised that the interaction effect between PsyCap and Lack of autonomy (PSYCAP*LOA) (ξ_6) negatively influences Disengagement (η_3). Stated differently, it is hypothesised that PsyCap moderates the relationship between Lack of autonomy and Disengagement.

$$H_{025}: \gamma_{36} = 0$$

$$H_{a25}: \gamma_{36} < 0$$

3.4 RESEARCH DESIGN AND PROCEDURE

The research design has been defined as a plan or blueprint of the manner in which the proposed research study will be conducted (Mouton, 2012). This includes the measurement instruments to be used, the sampling procedure adopted, and the data analysis and data collection techniques to be used. The research design is important as it enables the generation of unambiguous empirical evidence that can be interpreted in support of or against the operational hypothesis.

3.4.1 RESEARCH DESIGN

In accordance with the aim of this study a non-experimental research design was utilised. More specifically, an *ex post facto* correlation design was used to test the validity of the hypothesised structural model. This design was adopted as the purpose of this study was to observe relationships between variables without controlling or manipulating the variables in any way. Data was collected cross-sectional and the type of research design meant that individuals responded to measures at one specific point in time, and that given the subjective nature of some measures, the possibility exists that individuals might have responded differently in another context or at a different time.

The chosen research design would preclude the drawing of casual inferences from significant path coefficients as correlations do not suggest causation. However, through observation it would be possible to determine the relationships between the independent and dependent variables as this will be reflected in the degree to which these factors co-vary. Failure to reproduce the observed covariance matrix by fitting the proposed model would serve as evidence that the proposed structural model does not successfully explain the observed covariance matrix (Kelloway, 1998). However, if an accurate reproduction of the observed covariance matrix was allowed, it cannot immediately be assumed that the structural model accurately explained the observed covariance matrix. A significant degree of fit between the observed and estimated covariance matrices provides only a possible explanation of the phenomenon under investigation.

3.4.2 SAMPLING

The use of SEM requires an appropriate sample size in order to compute reliable estimates (Hair, Black, Babin, Anderson & Tatham, 2006). Bentler and Chou (as cited in Kelloway, 1998) recommended a 5:1 ratio for sample size to number of parameters that have to be

estimated as a minimum requirement. This guideline implies that a sample size of 2280 is required in the current study to provide a convincing test of the structural model of PWBW in Call Centres (456 freed parameters).

The available population for this study provided an opportunity for non-probability, purposive sampling in order to collect data. A convenience sample is defined as the selection of respondents based on their availability and willingness to partake in a study (Gravetter & Forzano, 2009). With the call centre workplace under investigation, a number of corporates were contacted at random and asked to participate in this research study. Where companies agreed to partake, the researcher (via company visits), and with the help of management, invited respondents to participate in this study. Participants therefore had a choice whether to participate or not and were also informed that they could discontinue at any point without any negative consequences. As a result, a non-probability convenience sampling method was employed in this study. In chapter 4 the sample characteristics are discussed in more detail.

3.4.3 RESEARCH PARTICIPANTS

This study targeted individuals who work in call centres and perform the functions associated with typical call centre work. More specifically, individuals who worked in the call centre department of the approached corporates were invited to partake in this research study. The inclusion criteria for participants were as follows:

- Permanent resident of South Africa;
- at least 18 years and older;
- employed full-time at the organisations under investigation;
- work in a call centre and perform typical call centre work; and
- not a team leader or part of the management team in any capacity.

3.4.4 DATA COLLECTION

Data collection only started upon receipt of ethical clearance to conduct the research. Depending on the specific need/preference of the organisations approached, the survey was either pencil-and-paper based or administered electronically¹³. The survey included sections addressing informed consent and demographic information, accompanied with a composite

¹³ Participants were provided with an online link, which if followed, took them to a secure site where they were able to complete the survey on their work computers. Companies did not have access to information retrieved from that link.

questionnaire that measured the various constructs related to this study. The identity of participants remained anonymous as response data was linked to a unique identification number. This meant that it was impossible to link any information to a specific individual. Participation was completely voluntary and all information was kept confidential. Participants were required to complete the survey during business hours and at the premises of their organisation.

Participants were initially notified of the opportunity to partake in this study via their organisation's management team. Management was also asked to communicate their approval and support for this study in order to increase the number of willing participants and to settle any unease regarding participation.

The two data collection approaches (i.e., pencil-and-paper and online) each had its advantages and disadvantages. It was believed that the pencil-and-paper administration would increase response rate and response time, while the online procedure would decrease response error and missing values. It was also anticipated that the pencil-and-paper approach would cause some response error and missing values, while the online approach was expected to complicate response rate and response time.

The main advantage of the overall sampling approach was that organisation-specific confounding variables (e.g., organisational culture) could be controlled for as the participant pool included a wide range of organisations, and was not restricted to only one company. The sample's demographic information was also expected to be reasonably diverse. This is discussed in chapter 4.

3.4.5 ETHICAL CONSIDERATIONS

The proposal for research, as well as the survey, was submitted for review by the Research Ethics Committee at the University of Stellenbosch. Only upon receipt of ethical clearance did the data collection process start. An informed consent template (see Appendices A and B) which covered all general issues such as confidentiality etc. accompanied the survey. The letters of institutional permission which allowed access to respondents were also submitted. Where relevant, permission was obtained for the use of assessment instruments and letters of permission were also submitted to the Ethical Committee. Furthermore, the DESC checklist was also completed online as part of the application process.

The ethical considerations most important to this research study included the right to informed consent, the right to privacy, and the right to confidentiality (Aguinis, Henle & Ostroff, 2001). Special care was taken to ensure that respondents were fully aware of their

rights as research participants. The informed consent which provided detailed information on all participant rights accompanied both data collection approaches. Moreover, companies were encouraged to use the pencil-and-paper approach as it allowed the researcher (who is also a registered Psychometrist – Independent Practice) to supervise the data collection and to address any concerns.

Whilst participants were informed that they have the right to refuse to answer any questions, they were also requested to complete every item as far as possible in order to limit the number of missing values. The online approach did however not allow for any missing values. Participants were also informed that they could withdraw from the study at any time.

Furthermore, this research study was perceived as posing a low risk of potential harm. The only potential risks or discomforts believed to be associated with participating in this study included the time required to fill out the survey and the discomfort respondents may have experienced when having to evaluate themselves. Individuals were advised to discontinue participation in the event where completing the survey was found to be emotionally taxing. Participants were also informed that they could contact the researcher should they feel the need to talk to a counsellor as a result of being subjected to the survey. In such cases, the researcher would offer to refer the participant to a suitable person for professional help.

3.4.6 DATA ANALYSIS AND TECHNIQUES

The choice of data analysis techniques is dependent on the type of research questions posed by the present study. This study used multivariate analysis techniques to deal with multiple relationships of dependent and independent variables that are interrelated in such a manner that their different effects cannot meaningfully be interpreted separately. This study's research question was guided by a number of research hypotheses and the following sections elaborate on the data analysis techniques that were utilised to test the propositions as well as certain aspects of the measurement instruments employed.

3.4.6.1 TREATMENT OF MISSING VALUES

Missing values can negatively affect the outcome of data analysis depending on the number of missing values, the reason for response omission, as well as the underlying pattern of missing data (Tabachnick & Fidell, 2001). In this study, data collected was free of missing data and therefore no missing values had to be imputed.

3.4.6.2 ITEM ANALYSIS

It is important to determine whether the design intention of the instruments succeeded in reflecting the variance in each of the latent variables comprising the PWBW in Call Centres structural model. Item analysis allows the identification and removal of items which do not contribute to the internal consistency of the various measuring instruments used. The focus is on assessing the reliability of the scale, or stated differently, the ability of the scale to consistently reflect the construct it is intended to measure (Field, 2005). The Cronbach alpha (α) is commonly used to measure reliability and reports the average inter-correlation of items within a test where the items are standardised (Coakes, Steed & Price, 2008). According to Nunnally and Bernstein (1994) an acceptable Cronbach alpha is .70 and above. The current research study utilised the .70 value as a benchmark for acceptable reliability coefficients. If a scale was found to have a satisfactory Cronbach alpha, item analysis was still performed as removing bad items will not only improve the reliability coefficient, but also guards against poor items making its way into item parcels.

3.4.6.2.1 ITEM FACTOR LOADINGS

According to research guidelines, factor loadings of between .30 and .40 are considered to meet the minimum level for interpretation of structure whereas loadings of .50 or greater are considered significant and loadings exceeding .70 as indicative of distinct structure (Hair et al., 2006). The .30 or greater value was used as a benchmark for these analyses. As such, interpretation of output was accompanied by the understanding that factor loadings of .30 were an acceptable reflection of the factor being measured (Tabachnick & Fidell, 2001).

Item analyses were performed on all the scales and subscales which comprise the PWBW in Call Centres structural model. This was done by means of the SPSS Reliability Procedure (SPSS Version 23, 2015). Based on the results per scale or subscale, decisions were made regarding the retention or removal of items in the respective scales. In addition to interpreting the Cronbach alpha, the item statistics, inter-item correlations and item-total statistics were also investigated before a decision was made on whether to remove an item. Items that did not contribute to the internal consistency of the latent variable in question were deleted. This analysis was followed by the dimensionality analysis.

3.4.6.3 DIMENSIONALITY ANALYSIS

Dimensionality analysis was employed to assess the uni-dimensionality assumption whereby the items selected representing each latent variable would solely measure the intended latent variable (Hair et al., 2006). Dimensionality analysis was only used to inspect the factor structure of an instrument which exhibited a poor fit between the observed data and the original theoretical model as reported by the confirmatory factor analysis (CFA)¹⁴¹⁵. In cases where dimensionality analysis did not support the measure's theoretically proposed factor structure, the possibility of meaningful factor fission was investigated. The question was then posed whether the extracted factors constitute meaningful sub-themes within the original latent variable. Here the number of items loading on the suggested factors and the magnitude of the factor loadings was also taken into consideration. In all cases, the credibility of the extracted factor structure as an explanation of the observed correlation matrix was evaluated by investigating the residual correlations.

The dimensionality analyses were conducted in SPSS Version 23 (2015) by subjecting each scale or subscale to an unrestricted principal axis factor analysis with oblique rotation. The decision of the number of factors to be extracted was based on the Eigen-value-bigger-than-one rule, as well as examining the scree plot. The outcome of the dimensionality analyses is discussed under the section pertaining to the evaluation of the measurement instruments, later in this chapter. Concerning the dimensionality analysis, a factor loading above .40 was considered acceptable.

3.4.6.4 STRUCTURAL EQUATION MODELLING (SEM)

The use of SEM sets it apart from the older generation of multivariate procedures. In contrast to most other multivariate procedures, SEM demands that the pattern of intervariable relations be specified *a priori*, and therefore lends itself well to the analysis of data for inferential purposes (Byrne, 2001). This author also stated that traditional multivariate procedures (e.g., those rooted in regression or general linear models) are incapable of either assessing or correcting for measurement error, whereas SEM provides explicit estimates of these error variance parameters. Using traditional methods which assume that error(s) in the explanatory (i.e., independent) variables disappears, may lead to serious inaccuracies, especially when errors are sizeable (Byrne, 2001).

¹⁴ Item analysis allowed the removal of items that did not reflect the same underlying factor and consequently were excluded from CFA and EFA analyses.

¹⁵ Dimensionality analyses were also performed on a number of the measures which obtained a perfect model fit according to CFA output.

Furthermore, SEM is suitable for testing the entire system of direct and mediated relations in the causal structure, and not only the contribution of isolated predictors (Hayashi, Bentler & Yuan, 2008). In their study, Iacobucci, Saldanha and Deng (2007) compared regression to SEM methodologies in terms of supremacy in identifying mediation structures. They reported SEM as superior given its reduced standard errors as a result of the simultaneous estimation of all parameters in the SEM model. Iacobucci et al. (2007, p. 145) commented:

Fitting components of models simultaneously is always statistically superior to doing so in a piece-meal fashion... The SEM results work to the researcher's benefit, in being more likely to detect existing patterns of mediation, being truer to the known population structural characteristics, and finally in also being statistically more defensible, given the elegance of the simultaneous estimation.

Viswesvaran and Ones (1995, p. 881) note that "structural equations modelling facilitates building theories of work behaviour that capture the richness and complexity of real world phenomena, a richness and complexity uncapturable in individual studies". The presence of multiple relationships of dependent and independent variables implies that SEM can estimate the unique contribution of PsyCap to the prediction of PWBW.

SEM was selected as the statistical analysis technique of choice for the present study. This enabled the researcher to conduct a CFA analysis on the individual measuring instruments to confirm its underlying structure. Furthermore, SEM was used to evaluate both the measurement model and the structural model. The main function of SEM is to test the structural model, whereas CFA analysis is utilised to evaluate the measurement model. CFA is an approach within the SEM framework. The CFA procedure provides information on how well the data fits the model, making it possible for the researcher to test the study's research hypotheses. The statistical package that was used for SEM analyses is LISREL 8.8 (Jöreskog & Sörbom, 2002).

3.4.6.4.1 VARIABLE TYPE

Before a CFA can be performed it requires specifying the variable type and investigating the normality of the data. The measurements used in this study all captured item responses on scales that produced ordinal data. However, when conducting CFA (Maximum Likelihood) SEM analyses, it is recommended to rather work with continuous data. According to Muthén and Kaplan (1985) if a measure contains 5 and more scale points the items can be treated as continuous variables. In line with this argument, all measures used in this research,

barring the burnout instrument, contained 5 or more scale points. As such, the items (observed variables) for these scales were specified to be continuous in all CFA analyses (these included the evaluation of the instrument itself, the measurement model as a whole, and the structural model). Evaluating the burnout measure in its own right required the individual item indicators to be specified as ordinal. However, the raw item-level data was converted into continuous data through the use of items parcels (e.g., Jöreskog & Sörbom, 1996a) in order to evaluate the complete measurement model.

3.4.6.4.2 NORMALITY AND ESTIMATION TECHNIQUE

When using continuous data in SEM, Maximum Likelihood (ML) is the preferred method of estimation. ML is a robust estimation method that functions well under less-than-perfect conditions (non-normality) (Hair et al., 2006). When fitting a measurement/structural model to continuous data, ML assumes multivariate normality. Given that most data fail to meet the assumption of univariate and multivariate normality (Bentler, 2006), this violates the statistical assumptions of SEM. The inappropriate analysis of continuous non-normal variables in SEM can result in incorrect standard errors and chi-square estimates (Du Toit & Du Toit, 2001; Mels, 2003).

As such, the univariate and multivariate normality of the indicator variables for all continuous scales used in this research were inspected with PRELIS (Jöreskog & Sörbom, 1996b). Normality results are reported under the section that reports on the CFA analyses for all the individual scales used, as well as for the measurement model tested in this research. Where the null hypothesis of univariate and multivariate normality is rejected, Robust Maximum Likelihood (RML) was employed as a supplementary estimation technique (Tabachnick & Fidell, 2001). In the once-off case where it was required to perform a CFA on ordinal data (for the burnout measure), the Diagonally Weighted Least Squares (DWLS) estimation technique was employed. It is stated that in cases where data is ordinal, the DWLS method provides more accurate parameter estimates (Schumacker & Beyerlein, 2000).

3.4.6.4.3 EVALUATION OF FIT

Goodness-of-fit indices evaluate to what extent there is consistency between the model and the data collected. A wide range of fit indices reported in LISREL 8.8 was examined and interpreted to determine the degree of fit for the measurement and structural models. The fit indices were evaluated holistically and carefully before any conclusions regarding the model fit were made (Diamantopoulos & Siguaw, 2000). The goodness of fit indices that were used

in this study included the Satorra-Bentler Scaled Chi-square ($S-B\chi^2$), Standardised Root Mean Square Residual (SRMR), Root Mean Square Error of Approximation (RMSEA), Non-normed Fit Index (NNFI), the Comparative Fit Index (CFI), and the P-Value for Test of Close Fit. These are the most widely reported fit statistics in research studies (Byrne, 1998; Hair et al., 2006).

Satorra-Bentler Scaled Chi-square ($S-B\chi^2$)

The Chi-square statistic is used to assess the null hypothesis of perfect fit. Stated differently, it investigates the proposition of a perfect fit between the model and the population data. The Satorra-Bentler Scaled Chi-square is generated when robust estimation techniques are employed under conditions of non-normal data (Satorra & Bentler, 2001). The null hypothesis is rejected if the $S-B\chi^2$ is statistically significant. In contrast to other studies, the objective is to not reject the null hypothesis (Diamantopoulos & Siguaw, 2000).

Standardised Root Mean Residual (SRMR)

The SRMR is the standardised square root of the difference between the residuals of the sample covariance matrix and the hypothesised covariance model (Hooper, Coughlan & Mullen, 2008). Lower SRMR values are indicative of a better fit. Values for SRMR range from 0 to 1.0, where 0 indicates perfect fit. Values of .08 and lower are considered acceptable (Hu & Bentler, 1999), whilst a more strict approach would see values less than .05 indicative of well-fitting models (Byrne, 1998; Diamantopoulos & Siguaw, 2000).

Root Mean Square Error of Approximation (RMSEA)

RMSEA provides an indication of how well the model, with unknown but optimally chosen parameter estimates would fit the population's covariance matrix (Byrne, 1998). It is regarded as one of the most explanatory fit indices (Diamantopoulos & Siguaw, 2000) due to its sensitivity to the number of estimated parameters in a model. The general agreement is that values below .08 suggest an acceptable fit, whilst values below .05 are considered a very good fit (Hair et al., 2006).

Comparative Fit Index (CFI) and Non-normed Fit Index (NNFI)

Presently a CFI and NNFI value of equal to or bigger than .95 is considered indicative of good fit (Hu & Bentler, 1999). NNFI recommendations as low as .80 have been proffered. A $CFI \geq .90$ cut-off criterion was also advanced in the past (Hooper et al., 2008).

3.4.6.5 THE MEASUREMENT MODEL

The measurement model delineates the correspondence of indicators to the exogenous and endogenous variables. Diamantopoulos and Siguaw (2000, p. 89) state:

Clearly, unless we can trust the quality of our measures, then any assessment of the substantive relations of interest (i.e., the links among the latent variables themselves) will be problematic. Thus an evaluation of the measurement part of the model should precede the detailed evaluation of the structural part of the model.

Based on both empirical and conceptual grounds, the researcher selected multiple indicator measures which were designed to measure and represent the appropriate exogenous and endogenous latent variables. According to Tabachnick and Fidell (2001) there is no upper limit for the number of indicators per variable, however it is advised to work with fewer indicators in relation to the sample size. In this study, PsyCap was represented by four indicator variables, Workload by three, Emotional labour by three, Lack of autonomy by three, Lack of supervisor support by three, Lack of co-worker support by three, Disengagement by two, Exhaustion by two, and PWBW were represented by five measured indicators (see Table 3.1). More specifically, item parcels were created and served as indicators for the PsyCap, burnout and PWBW measures.

As mentioned, a confirmatory factor analysis (CFA) approach was chosen to validate the psychometric properties of the measurement model and the magnitude of the relations between latent variables. Error associated with measured indicators represents measurement error, which reflects on the indicators' adequacy in measuring the related variables. SEM's confirmatory approach sets it apart from other data analysis techniques as it provides explicit estimates of error variance parameters. Byrne (2006) indicated that, in essence, both measurement and structural error terms represent unobserved variables. The measurement model therefore provides reliability data and also establishes the independence of the latent variables in the proposed structural model. If the theory underlining the measurement model is found to support the model's adequate functioning,

the assessment of goodness of fit to the sample data can be done with confidence. In chapter 4 the CFA result of the measurement model is discussed.

3.4.6.6 THE STRUCTURAL MODEL

Based on the theoretical assertion and empirical research the structural model allows the researcher to specify the regression structure among the variables and, accordingly, to indicate the manner by which the proposed latent variables are argued to, directly or indirectly, exercise influence or 'cause' changes in the other variables in the model. The study's proposed structural model of PWBW in Call Centres was depicted earlier in Figure 3.2.

According to Hair et al. (1998) causal relationships can take various forms and meanings. It can range from strict causation to the less well-defined relationships encountered in behavioural research, such as the 'causes' or the 'reasons' of performance. It is said that a researcher can assume causation between two variables in the theoretical justification provided to support such analyses. The above mentioned researcher stated that causal assertions can thus only be made that are based on: the existence of a sufficient association between the two variables; the presence of a temporal antecedence of the cause versus the effect; a lack of alternative causal variables; and a theoretical basis for the relationship. Accordingly, "although in many instances all of the established criteria for making causal assertions are not strictly met, causal assertions can possibly be made if the relationships are based on a theoretical rationale" (Hair et al., 1998, p. 592-593).

3.5 MEASUREMENT INSTRUMENTS

The latent variables were operationalised in terms of theoretically measured behaviour in order to serve as indicators that represent an empirical grasp of the variables. The variables that were operationalised included: PsyCap, Workload, Emotional labour, Lack of supervisor support, Lack of co-worker support, Lack of autonomy, Disengagement, Exhaustion, and PWBW.

Psychometrically sound instruments play an important role in the credibility of a research study's findings (Byrne, 2001). Leibold (1992) stressed the importance of applying and utilising valid and reliable tools in South Africa today. As such, existing research evidence which supported the psychometric integrity of the instruments included in this research study were investigated and reported on. Also, item analyses were performed on each instrument to determine whether the items measured the same underlying construct and succeeded in

reflecting variance in the latent variable it was intended to. Poor items were flagged for inspection and considered for removal. CFA was performed on the individual measures to determine the degree of fit between the observed data and the theoretical model. EFA was only conducted in cases where the CFA outcome was undesirable. As mentioned earlier, the treatment of missing values was not required. Following below is the description and psychometric evaluation of each of the measures of the constructs listed earlier in Table 3.1.

3.5.1 PSYCHOLOGICAL CAPITAL (PSYCAP)

PsyCap was measured with the PCQ-24 (Psychological Capital Questionnaire; Self-Rater Version) (Luthans, Avolio & Avey, 2007a). The instrument comprises of four sub-scales with equal weight, namely; Hope, Optimism, Resilience, and Self-efficacy. Each sub-scale consists of 6 items and responses are measured on a 6-point Likert-type scale, ranging from *Strongly Disagree* (1) to *Strongly Agree* (6).

Each of the four sub-scales in the PCQ-24 is based on items from scales which have considerable psychometric support across multiple samples. A study by Luthans et al. (2007b) used four samples to obtain the following Cronbach alphas in support of the reliability of the four 6-item constructs; Hope (.72, .75, .80, .76); Self-efficacy (.75, .84, .85, .75); Resilience (.71, .71, .66, .72); and Optimism (.74, .69, .76, .79). In addition, they also report the following Cronbach alphas for the overall PsyCap measure (.88, .89, .89, .89). The authors state that although two Cronbach alphas fall marginally below the recommended level of .70 (Nunnally & Bernstein, 1994), the reliability of the overall PsyCap measure met the required in all cases.

In another study within the South African context, partial reliability support was found for all the sub-dimensions of the PCQ-24 as the following alphas were reported; Hope (.81); Self-efficacy (.83); Resilience (.69) and Optimism (.67) (Görgens-Ekermans & Herbert, 2013). These authors pointed out that although two Cronbach alphas were below the recommended 0.70 value, there is a general clear trend in research for these two sub-scales (Resilience and Optimism) to obtain lower reliability values (e.g., Luthans et al., 2007b). Furthermore, the South African study reported the PCQ-24 to show construct and discriminant validity. Their results also corroborated those of Luthans et al. (2007b), finding a four-factor model to better fit the data than a one-factor model. The PCQ-24, consequently, provides evidence of strong psychometric integrity and the instrument was therefore used with confidence in this research study.

3.5.1.1 ITEM ANALYSIS AND DESCRIPTIVE STATISTICS

Item analysis was conducted on the PsyCap measure using SPSS' Reliability Procedure (SPSS Version 23, 2015). The following Cronbach alphas were reported; Self-efficacy (.797); Hope (.834); Resilience (.686) and Optimism (.621). On the Resilience subscale, Psy13 was flagged for removal. This item demonstrated low inter-item correlations, ranging from -.018 to .199. Compared to the other items, this item had a very low corrected item-total correlation (.140) and squared multiple correlation (.053). It was also indicated that the Cronbach alpha would increase significantly from .686 to .746 if this item was deleted. Based on the evidence provided, it was decided to remove this reverse keyed item. On the Optimism subscale, Psy20 was flagged for removal. Low inter-item correlations were found for this item, ranging from -.047 to .235. Also evident was a low corrected item-total correlation (.092) and low squared multiple correlation (.067). Deleting this item would increase the reliability coefficient from .621 to .668. It was decided to remove this reverse keyed item based on the evidence provided.

The reliability statistics for the four subscales and the entire scale, after the removal of items Psy13 and Psy20, are presented in Table 3.2 and Table 3.3 respectively. All Cronbach alphas were found to be satisfactory and in line with previous research trends for this measure.

Table 3.2

The Means, Standard Deviations and Reliability Coefficients for the PCQ-24 Subscales (After Removing Poor Items)

PCQ-24 subscales	Number of items	M	SD	α
Self-efficacy	6	26.458	5.760	.797
Hope	6	25.741	6.288	.834
Resilience	5	23.214	3.957	.746
Optimism	5	21.005	4.492	.668

Table 3.3

The Mean, Standard Deviation and Reliability Coefficient for the PCQ-24 (After Removing Poor Items)

	Number of items	M	SD	α
PCQ-24	22	96.418	15.700	.882

3.5.1.2 CONFIRMATORY FACTOR ANALYSIS

3.5.1.2.1 NORMALITY ANALYSIS

Univariate and multivariate normality was tested with PRELIS (Jöreskog & Sörbom, 1996b). The individual items were used as indicator variables and the variables were defined as continuous data. The null hypothesis of univariate normality was rejected ($p < .05$) for all the indicators. The null hypothesis of multivariate normality was also rejected (skewness and kurtosis: $\chi^2 = 1084.277$, $p = .000$). As a result, Robust Maximum Likelihood (RML) estimation technique was used to derive model parameter estimates. Statistics on the test of multivariate normality is presented in Table 3.4.

Table 3.4

Test of Multivariate Normality for the PCQ-24

Skewness			Kurtosis			Skewness and Kurtosis	
Value	Z-score	P-value	Value	Z-score	P-value	Chi-square	P-value
135.846	29.602	.000	667.212	14.422	.000	1084.277	.000

3.5.1.2.2 EVALUATION OF THE MEASUREMENT MODEL

SEM was used to perform a CFA on the PsyCap measurement model. The model consisted of the 22 observed variables (X's) and the four unobserved latent variables (ξ 's). The measurement model represented the relationship between the four latent variables of Hope (HPE), Optimism (OPT), Resilience (RES) and Self-efficacy (SE), and its unique indicators. The measurement model is depicted in Figure 3.3.

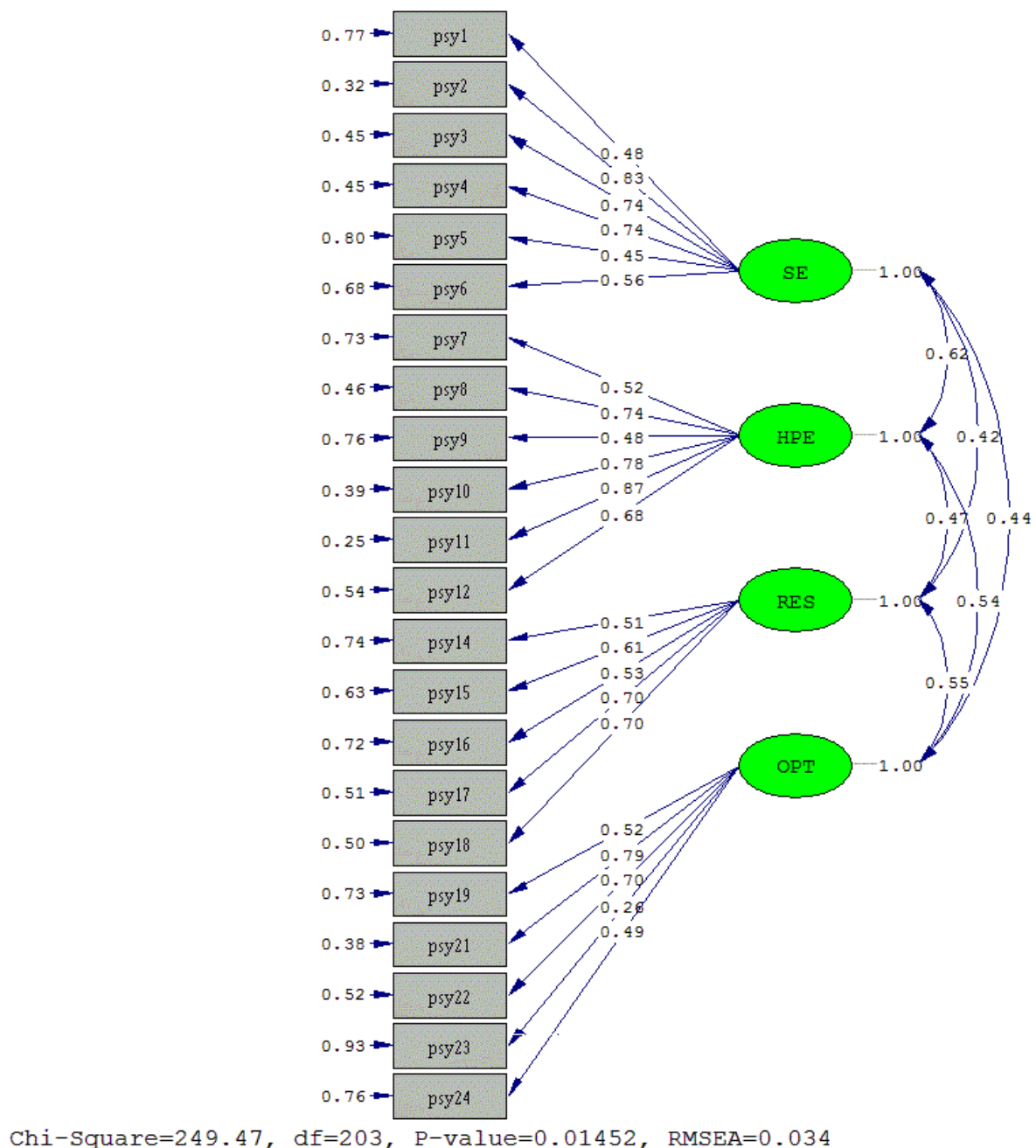


Figure 3.3. Measurement Model of the PCQ-24 (Standardised Solution)

The goodness of fit statistics of the CFA conducted in LISREL 8.8 (Jöreskog & Sörbom, 2002) is presented in Table 3.5. Results indicated a Satorra-Bentler Scaled Chi-square value of 249.469 with 203 degrees of freedom. Whilst the null hypothesis for exact fit was rejected ($p < .05$), the test of close fit could however not be rejected ($p = .978$; $p > .05$). Furthermore, the measurement model obtained a $RMSEA < .05$, indicating a close fit. The NNFI and CFI fit statistics both exceeded the .95 threshold. Also, the SRMR value was below the suggested .08 cut-off value. According to the range of fit statistics, the PsyCap measurement model can be described as demonstrating a close fit. All factor loadings were statistically significant and

ranged from .452 (item 5) to .868 (item 11), with the exception of one factor loading below .400. This was item 23 with a loading of .259.

Table 3.5

The Goodness of Fit Statistics for the PCQ-24

χ^2	S-B χ^2	df	S-B χ^2 /df	NNFI	CFI	RMR	SRMR	RMSEA (CI)	P(close)
333.568	249.469	203	1.228	0.985	0.986	0.119	0.0674	0.0338 (0.0161; 0.0472)	0.978

Note. χ^2 = Chi-square; S-B χ^2 = Satorra-Bentler Scaled Chi-square; NNFI = Non-normed Fit Index; CFI = Comparative Fit Index; RMR = Root Mean Square Residuals; SRMR = Standardised Root Mean Residual; RMSEA = Root Mean Square Error of Approximation *p < 0.05.

3.5.2 WORKLOAD

Qualitative workload was measured with Beehr, Walsh and Taber's (1976) *Role Overload scale*. It essentially captures the degree to which people have too much work to do in the time available. The measure consists of three items and responses are captured on a 7-point Likert-type scale ranging from *Strongly Disagree* (1) to *Strongly Agree* (7).

In their study, Beehr et al. (1976) report the scale to yield a reliability coefficient of .56 which according to recommended standards is poor. However, it is possible for the scale's reliability to be influenced by its limited number of items, rather than a poor fit. Given that this scale is used as part of a battery of tests and intentionally designed to be as short as possible, this research study accepted the premise that the scale's reliability is 'acceptable'. The instrument was favoured as it showed strong face validity in line with the purpose of the research. While the scale was used to measure workload, the study did take into consideration the low reliability coefficient and its potential limitations.

3.5.2.1 ITEM ANALYSIS AND DESCRIPTIVE STATISTICS

Item analysis was conducted on the Workload scale using the SPSS Reliability Procedure and a Cronbach alpha of .564 was reported. Reliability statistics for the Workload scale is presented in Table 3.6. The obtained reliability coefficient was well below Nunnally and Bernstein's (1994) recommended .70 benchmark. The scale's reliability can therefore be described as somewhat low. It is possible that the length of the scale negatively influenced its psychometric robustness. The scale only comprised of three items which could give rise to a small Cronbach alpha as the measure is at the mercy of the number of items included in the scale (Nunnally, 1978). Although somewhat speculative, the fact that one of the three

items was reversed keyed could also have played a part in the resultant low reliability coefficient. Item analysis and EFA (see below) flagged the reverse keyed item as 'problematic', reducing the scale to only two psychometrically sound items. Furthermore, the obtained Cronbach alpha is in line with past studies which also report a reliability coefficient of around .56 for this measure (e.g., Beehr et al., 1976). It has been stated that a reliability coefficient of below .70 is acceptable if the research study is exploratory in nature (Hair et al., 1998). The instrument was favoured for this study as it showed strong face validity in line with the purpose of the research. The study does however take into consideration the low reliability coefficient and its potential limitations.

The reverse keyed item, WRKLD1, was flagged for removal as it demonstrated low inter-item correlations (.148 and .342) when compared to that of the other items. WRKLD1 also obtained a low squared multiple correlation (.117) and corrected item-total correlation (.288). Deleting this item would have resulted in a Cronbach alpha increase to .581. It was however decided to keep the item due to the limited numbers of items in the scale.

Table 3.6

The Mean, Standard Deviation and Reliability Coefficient for the Workload Scale

	Number of items	M	SD	α
Workload	3	11.428	4.197	.564

3.5.2.2 CONFIRMATORY FACTOR ANALYSIS

3.5.2.2.1 NORMALITY ANALYSIS

Univariate and multivariate normality was tested with PRELIS (Jöreskog & Sörbom, 1996b). The individual items were used as indicator variables and the variables were defined as continuous data. The null hypothesis of univariate normality was rejected ($p < .05$) for all the indicators. The null hypothesis of multivariate normality was also rejected (skewness and kurtosis: $\chi^2 = 13.048$, $p = .001$). As a result, Robust Maximum Likelihood (RML) estimation technique was used to derive model parameter estimates. Statistics on the test of multivariate normality is presented in Table 3.7.

Table 3.7

Test of Multivariate Normality for the Workload Scale

Skewness			Kurtosis			Skewness and Kurtosis	
Value	Z-score	P-value	Value	Z-score	P-value	Chi-square	P-value
0.820	2.834	.005	13.394	-2.240	.025	13.048	.001

3.5.2.2 EVALUATION OF THE MEASUREMENT MODEL

SEM was used to perform a CFA on the Workload measurement model. The model was specified to consist of 3 observed variables (X's) and one unobserved latent variable (ξ). The measurement model represented the relationship between the latent variable workload and its unique indicators.

Fitting the measurement model did however not prove to be a productive exercise. The goodness of fit statistics reported that the model is saturated and therefore perfectly fits the data. It appears that the model is under-identified and therefore a perfect fit was obtained. It can be said that the degree of unknown information is more than the degree of unique information present in the covariance matrix. As a result, performing a CFA on this model did not make sense. The factor structure of this scale was further examined by way of an EFA.

3.5.2.3 EXPLORATORY FACTOR ANALYSIS

Given that the statistical interpretation of the CFA procedure was of little use, it was decided to investigate the factor structure of the scale with EFA. An unrestricted EFA was conducted, meaning that SPSS was allowed to freely determine the amount of factors to be extracted. The results indicated that one factor with an eigenvalue greater than one could be extracted, explaining 53.7% of the variance. The loadings for the factor solution are presented in Table 3.8. This one factor solution also presented zero non-redundant residuals with absolute values greater than .05. Based on this information, the uni-dimensionality assumption was accepted. The WRKLD1 item presented a low factor loading (.367) and was also flagged for removal in item analysis. In the end, the item had to be retained because of the limited number of items present in the instrument. The low factor loading for this item can possibly be attributed to the fact that it is a reverse scored item.

Table 3.8

Factor Matrix of the Workload Scale

	Factor 1
WRKLD2	.914
WRKLD3	.443
WRKLD1 (-)	.367

3.5.3 EMOTIONAL LABOUR (SURFACE ACTING)

Emotional labour was measured with the Emotional Labour Scale (ELS) which was developed by Brotheridge and Lee (2003). The ELS is a 15-item self-report questionnaire that measures six dimensions of emotional labour in the workplace. These dimensions are; frequency, intensity, variety, duration, surface acting and deep acting. Responses to each sub-scale are measured on a 5-point Likert-type scale ranging from *Never* (1) to *Always* (5). Given that this study focused on surface acting as a common form of emotional work in call centres, only the ELS subscale of surface acting was used.

Brotheridge and Lee (2003) found support for the reliability of the 3-item surface acting scale, reporting a Cronbach alpha of .79 in their study. This is above Nunnally and Bernstein's (1994) recommended level of .70. They also found evidence of construct validity as the CFA indicated a good model fit. Furthermore, low to moderate correlations were found between the ELS instrument and other scales which provides evidence of convergent and discriminant validity. Given its sound psychometric properties, the surface acting scale was used with confidence.

3.5.3.1 ITEM ANALYSIS AND DESCRIPTIVE STATISTICS

Item analysis was conducted on the surface acting scale and revealed a Cronbach alpha of .768. The reliability coefficient was above the .70 benchmark and interpreted as satisfying. The item, EMOLB1, achieved a low squared multiple correlation (.257), however it reported an acceptable corrected item-total correlation (.499) and satisfying inter-item correlations (.416 and .491). Deleting this item would have resulted in a Cronbach alpha increase to .791. It was however decided to retain this item due to the limited number of items in the scale and because the subscale already achieved an acceptable Cronbach alpha. Consequently, no items were removed from this scale. Reliability statistics for the surface acting scale is presented in Table 3.9.

Table 3.9

The Mean, Standard Deviation and Reliability Coefficient for the Surface Acting Scale

ELS subscale	Number of items	M	SD	α
Surface acting	3	8.950	3.171	.768

3.5.3.2 CONFIRMATORY FACTOR ANALYSIS

3.5.3.2.1 NORMALITY ANALYSIS

Univariate and multivariate normality was tested with PRELIS (Jöreskog & Sörbom, 1996b). The individual items were used as indicator variables and the variables were defined as continuous data. The null hypothesis of univariate normality was rejected ($p < .05$) for all the indicators. The null hypothesis of multivariate normality was also rejected (skewness and kurtosis: $\chi^2 = 6.425$, $p = .040$). As a result, Robust Maximum Likelihood (RML) estimation technique was used to derive model parameter estimates. Statistics on the test of multivariate normality is presented in Table 3.10.

Table 3.10

Test of Multivariate Normality for the Surface Acting Scale

Skewness			Kurtosis			Skewness and Kurtosis	
Value	Z-score	P-value	Value	Z-score	P-value	Chi-square	P-value
0.529	1.560	.119	13.520	-1.998	.046	6.425	.040

3.5.3.2.2 EVALUATION OF THE MEASUREMENT MODEL

SEM was used to perform a CFA on the surface acting scale. The model was specified to consist of 3 observed variables (X's) and one unobserved latent variable (ξ). The measurement model represented the relationship between the latent variable surface acting and its unique indicators.

The CFA analysis found the model to perfectly fit the data as the model was saturated. For the same reasons provided in discussions relating to the Workload measure, performing a CFA on this model did not make sense. The scale's factor structure was further examined via an EFA procedure.

3.5.3.3 EXPLORATORY FACTOR ANALYSIS

Given that statistical interpretation of the CFA procedure provided little insight, the factor structure of this scale was investigated via EFA. An unrestricted EFA was conducted, allowing SPSS to freely determine the underlying factor structure. The results showed that there was one factor with an eigenvalue bigger than one that explained 68.3% of the variance. This solution also revealed zero non-redundant residuals with absolute values greater than .05. The factor loadings are presented in Table 3.11. EMOLB1 which was flagged for inspection in the item analysis demonstrated an acceptable factor loading of .559 and this provided support for its inclusion. All factor loadings were above .50 and considered significant. Based on this evidence, the uni-dimensionality assumption was corroborated.

Table 3.11

Factor Matrix of the Surface Acting Scale

	Factor 1
EMOLB3	.877
EMOLB2	.747
EMOLB1	.559

3.5.4 SOCIAL SUPPORT

It was the objective of this study to measure the social support received from both management and co-workers. These sources of social support were measured with Taylor and Bowers' (1972) *Supervisory and peer leadership measure*. The measures of supervisory leadership and peer leadership consists of 4 subscales each, of which both include a social support scale. This study only utilised the subscales of social support as in line with the research focus. The Supervisory support scale consists of 3 items and responses are measured on a 5-point Likert-type scale ranging from *To a Very Great Extent* (1) to *To a Very Little Extent* (5). The Peer support scale (from here onwards referred to as the Co-worker support scale) has the same response style and number of test items to that of the supervisory measure.

In their study, Taylor and Bowers (1972) reported a reliability alpha of .94 for the Supervisory support scale, and .87 for the Co-worker support scale. In another study seven samples were used and Spearman-Brown reliability coefficients ranging from .90 to .93 were obtained for the Supervisory support scale and .83 to .92 for the Co-worker support scale (Cook, Hepworth, Wall & Warr, 1981). From the data reflected in these studies, a possible limitation

to the use of this measure is rooted in the inter-correlations of the scales (0.72 to 0.81 among the Supervisory scales and 0.56 to 0.71 among Co-worker scales) which suggest considerable overlap. However, the researcher did not deem this as alarming seeing as the behaviours measured by this instrument would typically overlap in the real world. While the study flagged this as a potential limitation, it did not regard this as convincing enough evidence to prove that the support scale does not warrant its independent definition. Furthermore, the items display strong face validity as in line with the objectives of the study. Given its psychometric evidence, the two subscales of Supervisory support and Co-worker support was used with confidence.

For the purpose of this study, two changes were made to the social support scales. It was believed that these changes would contribute to improving the psychometric robustness of the measures. The words “and easy to approach” were removed from the first item on both social support scales to avoid ambiguity in the respondent’s interpretation of these items. Also, on the co-worker support scale, the words “work group” was changed to “team” in order to avoid confusion.

3.5.4.1 ITEM ANALYSIS AND DESCRIPTIVE STATISTICS

Item analysis was performed on the Supervisor support and Co-worker support scales. The following Cronbach alphas were reported; Supervisor support (.891) and Co-worker support (.830). Both these reliability coefficients were above the .70 benchmark and interpreted as satisfactory. Reliability statistics for the two social support scales are presented in Table 3.12. Based on the inter-item correlation matrix and item-total statistics of both scales, no items were considered for removal.

Table 3.12

The Means, Standard Deviations and Reliability Coefficients for the Social Support Scales

Scale	Number of items	M	SD	α
Supervisor support	3	7.448	3.245	.891
Co-worker support	3	6.517	2.530	.830

3.5.4.2 CONFIRMATORY FACTOR ANALYSIS

3.5.4.2.1 NORMALITY ANALYSIS

PRELIS (Jöreskog & Sörbom, 1996b) was used to test univariate and multivariate normality for both measures of social support. In both cases, the individual items were used as indicator variables and the variables were defined as continuous data. For both scales, the null hypothesis of univariate normality was rejected ($p < .05$) for all indicators. For the Supervisor support scale, the null hypothesis of multivariate normality was not rejected (skewness and kurtosis: $\chi^2 = 5.030$, $p = .081$). As a result, ML estimation technique was used to derive model parameter estimates for this scale. However, for the Co-worker support scale, the null hypothesis of multivariate normality was rejected (skewness and kurtosis: $\chi^2 = 48.280$, $p = .000$). As a result, RML estimation technique was used to derive model parameter estimates for this scale. Statistics on the tests for multivariate normality for the two social support scales are presented in Table 3.13.

Table 3.13

Test of Multivariate Normality for the Social Support Scales

Social support scales	Skewness			Kurtosis			Skewness and Kurtosis	
	Value	Z-score	P-value	Value	Z-score	P-value	Chi-square	P-value
Supervisor support	0.650	2.137	.033	15.325	0.679	.497	5.030	.081
Co-worker support	2.036	6.163	.000	18.112	3.209	.001	48.280	.000

3.5.4.2.2 EVALUATION OF THE MEASUREMENT MODEL

A CFA was performed on the two social support measurement models. Each model consisted of 3 observed variables (X 's) and one unobserved latent variable (ξ). The measurement models represented their respective relationship between the latent variable and its unique indicators.

For both measurement models, the CFA resulted in a perfect fit due to the models being saturated. For the same reasons discussed earlier, performing a CFA on these models did not make sense. It was decided to investigate the factor structure of the two social support measures by means of EFA.

3.5.4.3 EXPLORATORY FACTOR ANALYSIS

As the CFA procedure did not provide meaningful statistical insight, an EFA was conducted on the two measures of social support in order to examine their individual factor structures. In both cases an unrestricted EFA was conducted to freely determine the underlying factor structure. Results revealed that for Supervisor support only one factor was extracted with an eigenvalue bigger than one, which explained 82.1% of the variance. Similarly, for Co-worker support only one factor was extracted, which explained 75.2% of the variance. Investigation of the reproduced correlations revealed that both measures had zero non-redundant residuals with absolute values greater than .05. All loadings were greater than .70 and considered satisfactory. Factor loadings for the Supervisor and Co-worker support scales are presented in Table 3.14 and Table 3.15 respectively. The uni-dimensionality assumption for both measures was therefore confirmed.

Table 3.14

Factor Matrix of the Supervisor Support Scale

	Factor 1
SSP3	.900
SSP2	.846
SSP1	.821

Table 3.15

Factor Matrix of the Co-worker Support Scale

	Factor 1
CSP2	.863
CSP3	.766
CSP1	.750

3.5.5 AUTONOMY

The revised Job Diagnostic Survey (JDS) was used to measure autonomy in this study. Hackman and Oldham (1975; 1980) developed the JDS and it is based on their five-factor Job Characteristics Model (Hackman & Oldham, 1974; 1980). The JDS consists of five subscales measuring skill variety, task identity, task significance, autonomy and feedback. As the other work characteristics do not form part of this study's focus, only the JDS subscale of Autonomy was utilised.

The Autonomy scale consists of three items, of which the first is measured differently to the remaining two. The first item is measured on a 7-point Likert-type scale, ranging from *Very Much* (1) to *Very Little* (7). Responses to the last two items are also measured on a 7-point Likert-type scale, but range from *Very Accurate* (1) to *Very Inaccurate* (7).

The JDS is regarded as the most widely used instrument in job redesign research and possess known and generally acceptable psychometric properties (Griffin, 1991, p. 429). The following reliability coefficients have been reported for the Autonomy scale across various studies; .66 (Bhagat & Chassie, 1980); .73 (Dunham, 1976); .69 (Dunham, Aldag & Brief, 1977); .66 (Hackman & Oldham, 1975) and .79 (Pierce & Dunham, 1978). In line with Nunnally and Bernstein's (1994) recommended level of .70, these studies provided general acceptable evidence of the Autonomy scale's internal consistency.

Studies by Fried and Ferris (1987) and Champoux (1991) support the JDS instrument's validity. Interestingly, results of a CFA confirmed that the revised JDS (designed by replacing reverse score items with new items) show a better fit to the five-factor structure as proposed by the job characteristics model than the original JDS did. Studies done by Cordery and Sevastos (1993), Harvey, Billings and Nilan (1985), Idaszak and Drasgow (1987) and Kulik, Oldham and Langner (1988) provide sufficient evidence supporting the construct validity of the revised JDS. As per the psychometric evidence provided, this study used the Autonomy scale with confidence.

3.5.5.1 ITEM ANALYSIS AND DESCRIPTIVE STATISTICS

Item analysis was performed on the Autonomy scale and a Cronbach alpha of .792 was reported. Well above the .70 benchmark, this reliability coefficient was considered satisfactory. The reliability statistics for the Autonomy scale is presented in Table 3.16. The item, AUT1, was investigated as it had a low squared multiple correlation (.283). However, it obtained an acceptable corrected item-total correlation (.521) and fair inter-item correlations (.440 and .522). While deleting this item would have resulted in a Cronbach alpha increase to .828, it was decided to retain the item as the scale is very short and because it already achieved a satisfying reliability coefficient.

Table 3.16

The Mean, Standard Deviation and Reliability Coefficient for the Autonomy Scale

	Number of items	M	SD	α
Autonomy	3	12.935	4.668	.792

3.5.5.2 CONFIRMATORY FACTOR ANALYSIS

3.5.5.2.1 NORMALITY ANALYSIS

The univariate and multivariate normality for the Autonomy scale was tested with PRELIS (Jöreskog & Sörbom, 1996b). The individual items were used as indicator variables and the variables were defined as continuous data. The null hypothesis of univariate normality was rejected ($p < .05$) for two of the three indicators. The null hypothesis of multivariate normality was rejected (skewness and kurtosis: $\chi^2 = 14.391$, $p = .001$). As a result, RML estimation technique was used to derive model parameter estimates for this scale. The test of multivariate normality statistics is presented in Table 3.17.

Table 3.17

Test of Multivariate Normality for the Autonomy Scale

Skewness			Kurtosis			Skewness and Kurtosis	
Value	Z-score	P-value	Value	Z-score	P-value	Chi-square	P-value
0.998	3.470	.001	16.113	1.533	.125	14.391	.001

3.5.5.2.2 EVALUATION OF THE MEASUREMENT MODEL

A CFA was conducted on the Autonomy scale which was specified to consist of 3 observed variables (X 's) and one unobserved latent variable (ξ). The measurement model represented the relationship between the latent variable Autonomy and its unique indicators.

Results indicated that the model was saturated and that a perfect fit was achieved. As in line with earlier discussions, performing a CFA on this model did not make sense. The measurement model's factor structure was consequently investigated with EFA.

3.5.5.3 EXPLORATORY FACTOR ANALYSIS

Confirmatory factor analysis on the Autonomy scale did not yield meaningful statistical interpretation and the scale's factor structure was therefore investigated via EFA. An unrestricted EFA was conducted on the scale. Results indicated that one factor with an eigenvalue greater than one was extracted, which explained 70.7% of the variance. Furthermore, there were zero non-redundant residuals with absolute values bigger than .05 for this solution. The factor loadings were all above .50 and considered acceptable. The item, AUT1, which was flagged for inspection in item analysis, obtained a factor loading of .571. It was decided to retain the item based on the EFA results and because of the limited number of items present in the scale. The uni-dimensionality assumption for this scale was accepted. All factor loadings are presented in Table 3.18.

Table 3.18

Factor Matrix of the Autonomy Scale

	Factor 1
AUT3	.914
AUT2	.773
AUT1	.571

3.5.6 BURNOUT

Burnout was measured with the Oldenburg Burnout Inventory (OLBI) (Demerouti, 1999; Demerouti & Nachreiner, 1998). It measures the two core dimensions of burnout which is Exhaustion and Disengagement from work. For both dimensions, four items are phrased positively and four items are phrased negatively. Responses are indicated on a 4-point Likert-type scale ranging from *Strongly Agree* (1) to *Strongly Disagree* (2).

The English version of the OLBI was used, but it was important to take note of the unstandardised nature of the translation in English (checked by an American native speaker). Nonetheless, evidence exists to support the psychometric integrity of the OLBI. With regard to reliability, a study done by Demerouti et al. (2010) in South Africa, reported a Cronbach alpha of .74 for the Exhaustion subscale and .79 for the Disengagement subscale.

Factor validity of the OLBI has been confirmed in a number of studies done across different countries (Demerouti & Bakker, 2008; Demerouti, Bakker, Nachreiner & Ebbinghaus, 2002; Demerouti et al., 2003; Halbesleben & Demerouti, 2005). The convergent validity of the OLBI has also been confirmed (Demerouti et al., 2003; Halbesleben & Demerouti, 2005).

The study by Demerouti et al. (2003) also supported the instrument's discriminant validity. While this research study used the OLBI with confidence to measure burnout, it did however take into cognisance the potential limitations posed by the unstandardised English translation. The South African study, given its favourable reliability coefficients, did provide confidence in the English version.

3.5.6.1 ITEM ANALYSIS AND DESCRIPTIVE STATISTICS

Item analysis was conducted on the burnout measure. The Cronbach alphas reported for the two subscales were; Disengagement (.801) and Exhaustion (.781). Both subscales presented reliability coefficients above the recommended .70 benchmark. The reliability statistics for these subscales can be found in Table 3.19. The Cronbach alpha for the entire scale was a satisfactory .878 and presented in Table 3.20.

Burn13, as part of the Disengagement scale, was flagged for closer inspection. This item reported low inter-item correlations ranging from .117 to .376. Whilst its corrected item-total correlation was acceptable (.305), it reported a low squared multiple correlation of .150. Deleting this item would have resulted in a small increase in the subscale's Cronbach alpha to .805. Seeing as the scale already achieved a high reliability coefficient, the item was retained at this point. Burn5 and Burn14, as part of the Exhaustion scale, were also flagged for inspection. Both items obtained low inter-item correlations (ranging from .074 to .381) and squared multiple correlations below .250. These items did however demonstrate acceptable corrected item-total correlations of above .300. It was decided to retain these items at this point as the scale already achieved a reasonably good reliability coefficient and because no increase in the Cronbach alpha would have resulted from deleting these items. All flagged items were subjected to CFA and EFA procedures for closer inspection (to be discussed in the sections following).

Table 3.19

The Means, Standard Deviations and Reliability Coefficients for the OLBI Subscales

OLBI subscales	Number of items	M	SD	α
Disengagement	8	21.975	4.446	.801
Exhaustion	8	21.468	4.246	.781

Table 3.20

The Mean, Standard Deviation and Reliability Coefficient for the OLBI

	Number of items	M	SD	α
OLBI	16	43.443	8.104	.878

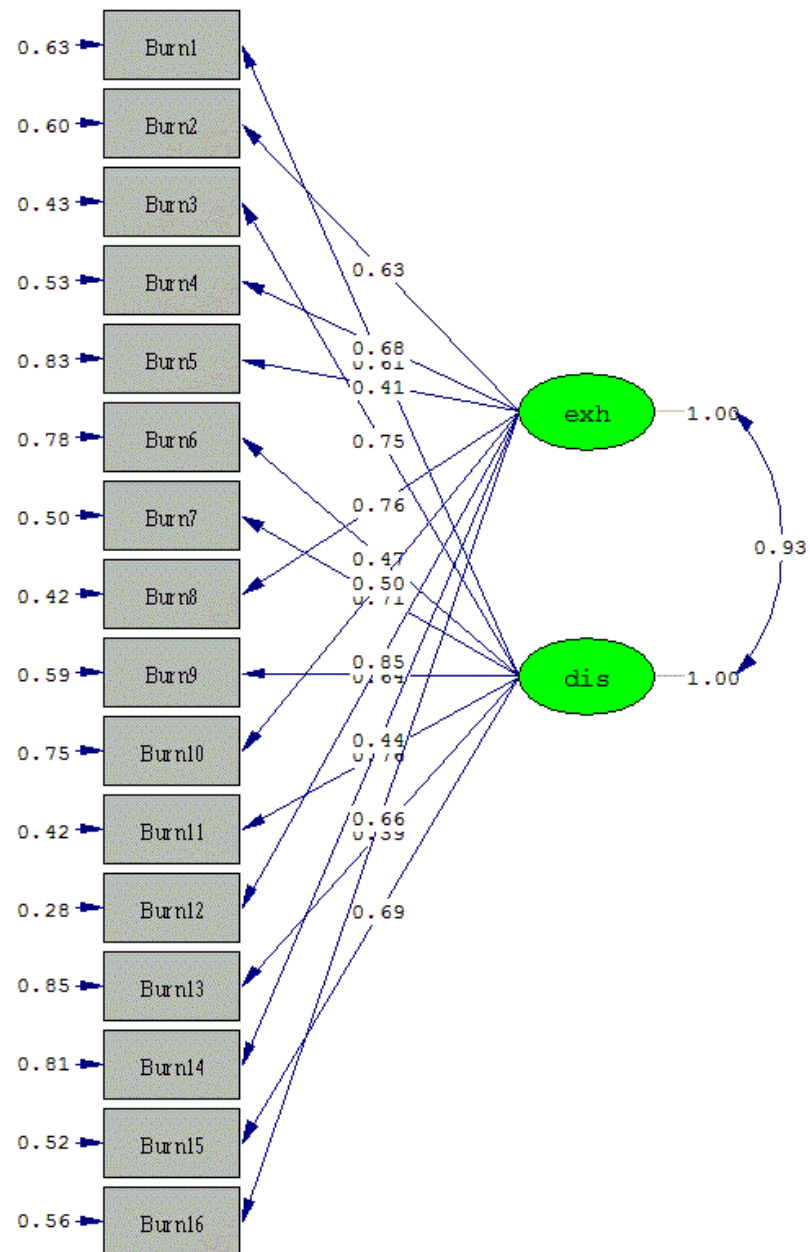
3.5.6.2 CONFIRMATORY FACTOR ANALYSIS

3.5.6.2.1 NORMALITY ANALYSIS

A test of multivariate normality was not performed on this scale as the data was ordinal. In the case of ordinal data it is clear that the outcome will not follow a normal distribution. The fact that this scale presented ordinal variables further meant that the DWLS estimation technique was employed to derive model parameter estimates.

3.5.6.2.2 EVALUATION OF THE MEASUREMENT MODEL

SEM was used to perform a CFA on the burnout measurement model. The model consisted of 16 observed variables (X's) and two unobserved latent variables (ξ 's). The measurement model represented the relationship between the two latent variables of Disengagement (DIS) and Exhaustion (EXH) and its unique indicators. The model is presented in Figure 3.4.



Chi-Square=288.94, df=103, P-value=0.00000, RMSEA=0.095

Figure 3.4. Measurement Model of the OLBI (Standardised Solution)

The results of the CFA are presented in Table 3.21. A Satorra-Bentler Scaled Chi-square value of 288.940 with 103 degrees of freedom emerged. The null hypothesis of exact fit was rejected ($p < .05$). Results further indicated that the null hypothesis for close was also rejected ($p = .000$; $p < .05$). The $RMSEA > .08$ value revealed that the model also failed to achieve a reasonable fit. The CFI was equal to the .95 cut-off, whilst the NNFI was slightly below it. Furthermore, the SRMR value was too high and comfortably exceeded the recommended .08 benchmark. According to the fit statistics, it was clear that the model did not obtain a

satisfactory fit. All factor loadings were statistically significant and ranged from .410 (Burn5) to .850 (Burn12). Only Burn13 (.390) obtained a factor loading below .400.

Table 3.21

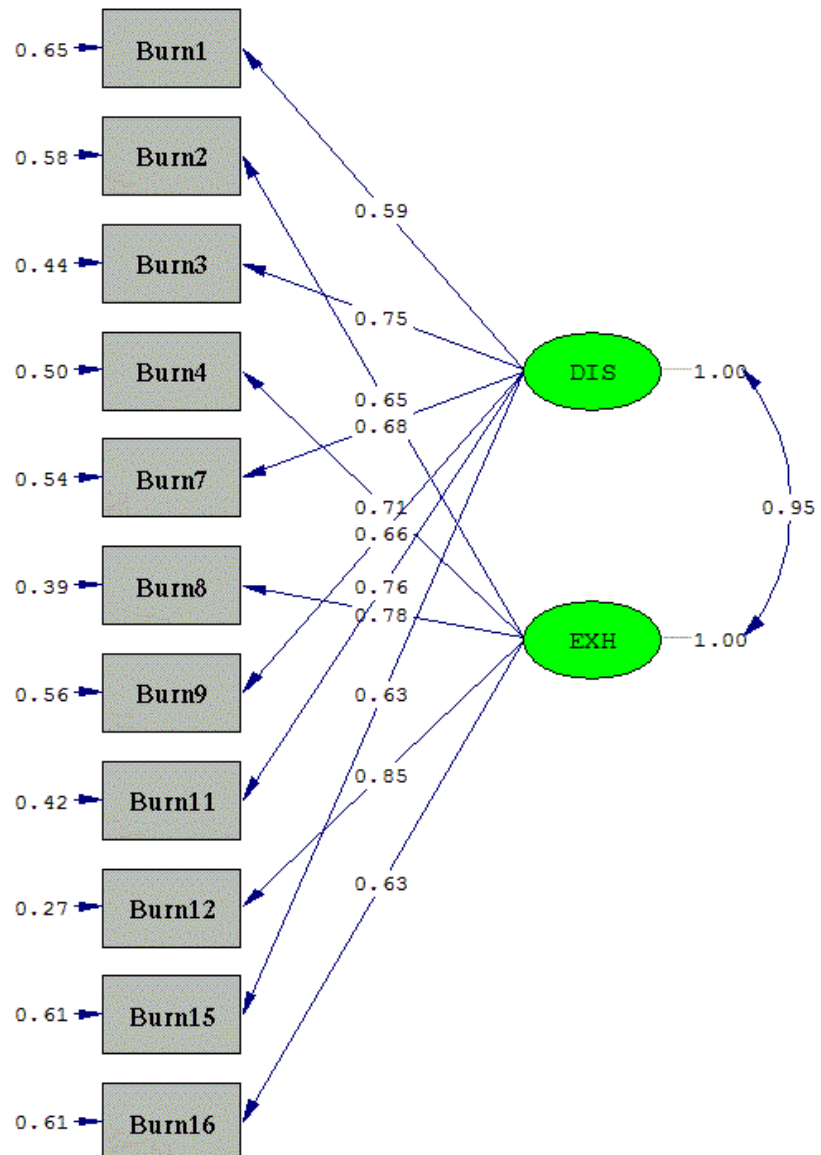
The Goodness of Fit Statistics for the OLB

χ^2	S-B χ^2	df	S-B χ^2 /df	NNFI	CFI	RMR	SRMR	RMSEA (CI)	P(close)
657.540	288.940	103	2.810	0.940	0.950	0.0930	0.0930	0.0950 (0.0820; 0.1100)	0.000

Note. χ^2 = Chi-square; S-B χ^2 = Satorra-Bentler Scaled Chi-square; NNFI = Non-normed Fit Index; CFI = Comparative Fit Index; RMR = Root Mean Square Residuals; SRMR = Standardised Root Mean Residual; RMSEA = Root Mean Square Error of Approximation *p < 0.05.

3.5.6.2.3 RE-EVALUATION OF THE MEASUREMENT MODEL

As the CFA yielded results that did not indicate a good fit, it was decided to examine the lambda-x, phi and theta-delta statistics to scrutinise the performance of the indicator variables. Item analysis already suggested that some indicators might be problematic. Closer inspection revealed a large phi value of .930, indicating that the two constructs of burnout (Disengagement and Exhaustion) did strongly correlate. This was somewhat concerning as a value of greater than .900 can be interpreted as the constructs being clones. This did however not make sense as theoretically the constructs of Exhaustion and Disengagement are completely different and unique. The theta-delta statistics revealed that the items Burn5, Burn6, Burn10, Burn13 and Burn14 had large error variance ranging from .750 (Burn10) to .850 (Burn13). These theta-delta values were high and somewhat concerning. As expected, the lambda-x statistics confirmed those same items to also demonstrate weaker factor loadings in comparison to the other items. These flagged items obtained loadings ranging from .390 (Burn13) to .500 (Burn10), with the other items all reporting factor loadings of .610 (item 1) and greater. Based on the evidence provided, it was decided to remove Burn5, Burn6, Burn10, Burn13 and Burn14 from the scale. Prior to the CFA, item analysis already flagged Burn5, Burn13 and Burn14 as problematic, providing further confirmation of the researcher's decision to remove the items. A second CFA was conducted on the OLB scale after removing the problematic items. The model is presented in Figure 3.5.



Chi-Square=144.21, df=43, P-value=0.00000, RMSEA=0.108

Figure 3.5. Measurement Model of the Shortened OLB I (Standardised Solution)

Goodness of fit statistics for the shortened OLB I scale can be found in Table 3.22. Both the null hypotheses for exact and close fit ($p < .05$) were rejected. The RMSEA value increased to .1080, which meant that the model fit deteriorated. Regarding the incremental fit indices, the NNFI and CFI met the .95 requirement. The SRMR was however above the .08 level. According to the fit statistics, it was clear that the shortened model did not outperform the full model. More importantly, the model still failed to achieve a satisfactory fit.

Table 3.22

The Goodness of Fit Statistics for the Shortened OLBI

χ^2	S-B χ^2	df	S-B χ^2 /df	NNFI	CFI	RMR	SRMR	RMSEA (CI)	P(close)
346.270	144.210	43	3.350	0.950	0.960	0.0920	0.0920	0.1080 (0.0890; 0.1300)	0.000

Note. χ^2 = Chi-square; S-B χ^2 = Satorra-Bentler Scaled Chi-square; NNFI = Non-normed Fit Index; CFI = Comparative Fit Index; RMR = Root Mean Square Residuals; SRMR = Standardised Root Mean Residual; RMSEA = Root Mean Square Error of Approximation *p < 0.05.

3.5.6.3 EXPLORATORY FACTOR ANALYSIS

Given that the CFA on the shortened scale did not yield better results, it was decided to conduct an EFA to investigate the reduced scale's factor structure. Whilst not mentioned above, the CFA results for the shortened OLBI scale reported a phi value of .950 which further motivated the importance of an EFA. An unrestricted EFA was performed on the scale to freely determine the amount of factors to be extracted. Results found two factors with eigenvalues greater than one which explained 58.3% of the variance. The loadings obtained for this solution are presented in Table 3.23.

Table 3.23

Structure Matrix of the Shortened OLBI

	Factor	
	1	2
Burn12 (-)	.788	.505
Burn8 (-)	.750	.444
Burn4 (-)	.738	.307
Burn11 (-)	.686	.489
Burn3 (-)	.644	.591
Burn9 (-)	.601	.413
Burn2 (-)	.593	.326
Burn15	.388	.768
Burn7	.470	.701
Burn16	.435	.689
Burn1	.377	.649

For this solution the non-redundant residuals with absolute values greater than .05 was acceptable (20%). This suggested that a two factor solution was likely the best representation of the factor structure of the scale in this sample. Inspection of the factor loadings revealed that Burn3 was a complex item as it loaded fairly strongly on both factors. The researcher decided to remove this item to ensure that both factors have items with

strong loadings. Given complications to obtain a satisfactory model fit, a strict .70 benchmark was adopted for further interpretations of factor loadings in this specific scale. As a result, the loadings of Burn2 (.593) and Burn9 (.601) were deemed as unsatisfactory and the items were removed. Whilst Burn11, Burn16 and Burn1 presented loadings below .70, it was decided to retain these items as they were much closer to the .70 cut-off and because removing them would have severely limited the number of items present in this scale.

It was found that Burn11 and Burn16 did not load onto the factor it was designed to measure. Burn11 states “sometimes I feel sickened by my work tasks” and was designed to be a measure of Disengagement. This item however loaded strongly onto the Exhaustion factor. Based on the fact that the majority of the sample consisted of people who had English as a second or third language, it is possible that the item was wrongfully interpreted. In the context of that particular statement, the word “sickened” could have been perceived as somewhat ambiguous and rather associated with feelings of physical and/or mental fatigue. In other words, it is possible that candidates misinterpreted the word “sickened” as referring to how they physically or cognitively feel as a result of completing their work, as opposed to understanding that it actually refers to a negative work attitude. Burn16 states “when I work, I usually feel energised” and was designed to measure Exhaustion. This item however strongly loaded onto the Disengagement factor. This can be explained by referring to research literature on employee engagement. According to Schaufeli et al. (2002) work engagement is characterised by vigour, dedication and absorption. Bakker and Demerouti (2008) defined vigour as having high levels of energy and mental resilience. It is therefore plausible to believe that responses to this statement rather succeeded in measuring the individual’s vigour as opposed to his or her level of exhaustion. It was decided that satisfactory evidence existed to justify the cross factor loadings of these items and their inclusion in further analyses. After the deletion of items Burn3, Burn9 and Burn2, an unrestricted EFA analysis was re-run. The loadings obtained for the 8-item OLB are presented in Table 3.24.

Table 3.24

Structure Matrix of the 8-item OLBI

	Factor	
	1	2
Burn12 (-)	.816	.523
Burn8 (-)	.759	.446
Burn4 (-)	.707	.304
Burn11 (-)	.693	.492
Burn15	.379	.753
Burn7	.444	.700
Burn16	.411	.684
Burn1	.360	.664

The EFA reported factor loadings that either exceeded the .70 benchmark or came very close, with the lowest loading being .664 (Burn1). Two eigenvalues bigger than one were extracted which explained 64.6% of the variance. Furthermore, this solution presented only 3 (10%) non-redundant residuals with absolute values greater than .05. Also, seeing as the scale was now severely reduced, the SPSS Reliability Procedure was re-run and the following Cronbach alphas were reported; Exhaustion (.829) and Disengagement (.793). The entire scale achieved a Cronbach alpha of .844. The EFA provided convincing evidence of a two factor structure with strong item loadings. The reliability statistics for the shortened 8-item OLBI and its subscales is presented in Table 3.25 and Table 3.26.

Table 3.25

The Mean, Standard Deviation and Reliability Coefficient for the 8-item OLBI

	Number of items	M	SD	α
8-item OLBI	8	21.224	4.858	.844

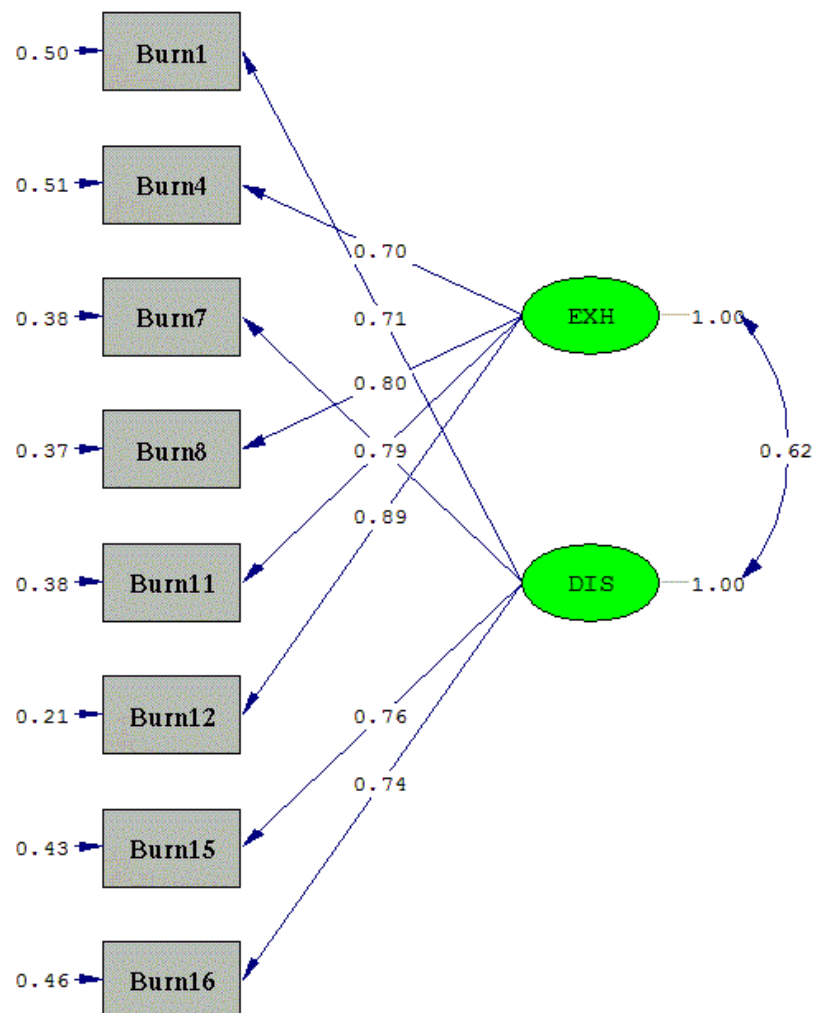
Table 3.26

The Means, Standard Deviations and Reliability Coefficients for the 8-item OLBI Subscales

OLBI Subscales	Number of items	M	SD	α
Disengagement	4	10.045	2.699	.793
Exhaustion	4	11.179	2.920	.829

3.5.6.4 FINAL EVALUATION OF THE OLBI MEAUREMENT MODEL

A CFA was performed on the 8-item OLBI scale. The measurement model is depicted in Figure 3.6.



Chi-Square=23.22, df=19, P-value=0.22785, RMSEA=0.033

Figure 3.6. Measurement Model of the 8-item OLBI (Standardised Solution)

The goodness of fit statistics is presented in Table 3.27. The CFA on the 8-item OLBI yielded significantly better results. Although support for the null hypothesis for exact fit was not found ($p < .05$), the null hypothesis for close fit could not be rejected ($p = .710$). The RMSEA value (.0330) also provided evidence of a close model fit ($RMSEA < .05$). The incremental fit indices NNFI and CFI were also well above the .95 cut-off. The SRMR was also satisfactory and well below the .08 level. The range of fit statistics suggested that the model provides a close and satisfactory fit. All factor loadings were statistically significant,

ranging from .700 (Burn4) to .890 (Burn12). Additionally, the phi value was an acceptable .620, and the theta-delta values were lower, ranging from .210 (Burn12) to .510 (Burn4).

Table 3.27

The Goodness of Fit Statistics for the 8-item OLB1

χ^2	S-B χ^2	df	S-B χ^2 /df	NNFI	CFI	RMR	SRMR	RMSEA (CI)	P(close)
51.070	23.220	19	1.220	1.000	1.000	0.045	0.045	0.0330 (0.000; 0.740)	0.710

Note. χ^2 = Chi-square; S-B χ^2 = Satorra-Bentler Scaled Chi-square; NNFI = Non-normed Fit Index; CFI = Comparative Fit Index; RMR = Root Mean Square Residuals; SRMR = Standardised Root Mean Residual; RMSEA = Root Mean Square Error of Approximation *p < 0.05.

3.5.7 PSYCHOLOGICAL WELL-BEING AT WORK (PWBW)

The individual's psychological well-being in the workplace was measured with the Index of Psychological Well-being at Work (IPWBW). This instrument was developed by Dagenais-Desmarais and Savoie (2012) and describes the PWBW construct as an individual's subjective positive experience at work, which comprises of primarily five Eudaimonic dimensions. These dimensions are Interpersonal Fit at Work; Thriving at Work; Feeling of Competency at Work; Perceived Recognition at Work and Desire for Involvement at Work. Each dimension consists of 5 items and responses are measured on a 6-point Likert-type scale, ranging from *Disagree* (0) to *Completely Agree* (5). While a longer version of this instrument exists (80 item scale), the shorter version (25 item scale) was utilised.

The IPWBW has been shown to have satisfactory reliability, both at the subscale level and for the overall instrument. Dagenais-Desmarais and Savoie (2012) have reported the following Cronbach alphas for the subscales; Interpersonal Fit at Work (.920); Thriving at Work (.907); Feeling of Competency at Work (.861); Perceived Recognition at Work (.833); and Desire for Involvement at Work (.888). An alpha of .964 was also reported for the entire scale. These Cronbach alphas are reasonably high, suggesting that the IPWBW is a reliable measure.

Dagenais-Desmarais and Savoie (2012) also reported the IPWBW as a valid instrument. With regard to content validity, these authors adopted a bottom-up¹⁶ approach when developing the measure to ensure that all content domains of the PWBW construct as perceived by working individuals were covered.

¹⁶ The initial step entailed a qualitative approach which allowed for identifying a final pool of 80 PWBW manifestations. The quantitative approach was the next step in the process to investigate the dimension structure.

EFA allowed for the identification of a sound and parsimonious five-factor structure of PWBW which included 25 items, accounting for 70.2% of PWBW variance. Dagenais-Desmarais and Savoie (2012) furthermore felt it was reasonable to consider the relevance of a higher order construct of PWBW as the five factors obtained in their study were moderately and positively inter-correlated ($.359 \leq r \leq .671$). They performed a second-order EFA which showed that the five dimensions represent an underlying latent construct of PWBW.

Dagenais-Desmarais and Savoie (2012) conducted a CFA which provided evidence of construct validity as the five-factor model was shown to fit the data satisfactory. These researchers also performed convergent and divergent validity studies which confirmed that PWBW is a concept related to but distinct from other context-free PWB indicators.

As a result, the IPWBW appeared to present a rigorously grounded content validity, clear internal structure, and strong reliability. The instrument was therefore used with confidence.

3.5.7.1 ITEM ANALYSIS AND DESCRIPTIVE STATISTICS

Item analysis was conducted on the IPWBW using the SPSS Reliability Procedure. The Cronbach alphas achieved for the five subscales are presented in Table 3.28. Results indicated that all subscales exceeded the .70 benchmark for an acceptable reliability coefficient (Nunnally, 1978). Moreover, three of the subscales obtained values above .80 and one subscale achieved a value exceeding .90. Given the Cronbach alphas obtained, the IPWBW subscales were found to display a satisfactory internal consistency. The entire scale also obtained a strong Cronbach alpha of .94 which is presented in Table 3.29.

Item analysis identified PWBW3 and PWBW25 as possible items for removal. PWBW3, as part of the FOCAW subscale, presented weaker inter-item correlations (ranging from .225 to .483) in relation to the correlations achieved by the other items and also demonstrated a low squared multiple correlation (.280). It did however have an acceptable corrected item-total correlation of .454. Furthermore, a drop in the subscale's Cronbach alpha was expected should the item be removed. It was decided to retain this item as the reliability coefficient achieved for this subscale was acceptable, and because only 5 items measure this construct the decision was taken to rather protect the integrity of the original scale. Burn25, as part of the DFIWA subscale, demonstrated lower inter-item correlations (ranging from .295 to .458) compared to the correlations achieved by the other items and also presented a low squared multiple correlation (.269). However, the corrected item-total correlation was acceptable (.495) and deleting the item would have resulted in an insignificant increase in the subscale's Cronbach alpha. It was decided to retain this item as the reliability coefficient achieved for

this subscale was acceptable, and as the intention was also to protect the integrity of the original scale. All items on the subscales were therefore retained in further analyses.

Table 3.28

The Means, Standard Deviations and Reliability Coefficients for the IPWBW Subscales

PWBW subscales	Number of items	M	SD	α
IFAW	5	24.458	5.162	.856
TAW	5	19.179	7.295	.920
FOCAW	5	24.781	4.687	.753
PRAW	5	19.214	6.884	.877
DFIAW	5	23.965	5.129	.808

Note. IFAW = Interpersonal Fit at Work; TAW = Thriving at Work; FOCAW = Feeling of Competency at Work; PRAW = Perceived Recognition at Work; DFIAW = Desire for Involvement at Work.

Table 3.29

The Mean, Standard Deviation and Reliability Coefficient for the IPWBW

	Number of Items	M	SD	α
PWBW	25	111.597	23.931	.942

3.5.7.2 CONFIRMATORY FACTOR ANALYSIS

3.5.7.2.1 NORMALITY ANALYSIS

Univariate and multivariate normality was tested with PRELIS (Jöreskog & Sörbom, 1996b). The individual items were used as indicator variables and the variables were defined as continuous data. The null hypothesis of univariate normality was rejected ($p < 0.05$) for all the indicators. The null hypothesis of multivariate normality was also rejected (skewness and kurtosis: $\chi^2 = 1695.530$, $p = .000$). As a result, Robust Maximum Likelihood (RML) estimation technique was used to derive model parameter estimates. Statistics on the test of multivariate normality is presented in Table 3.30.

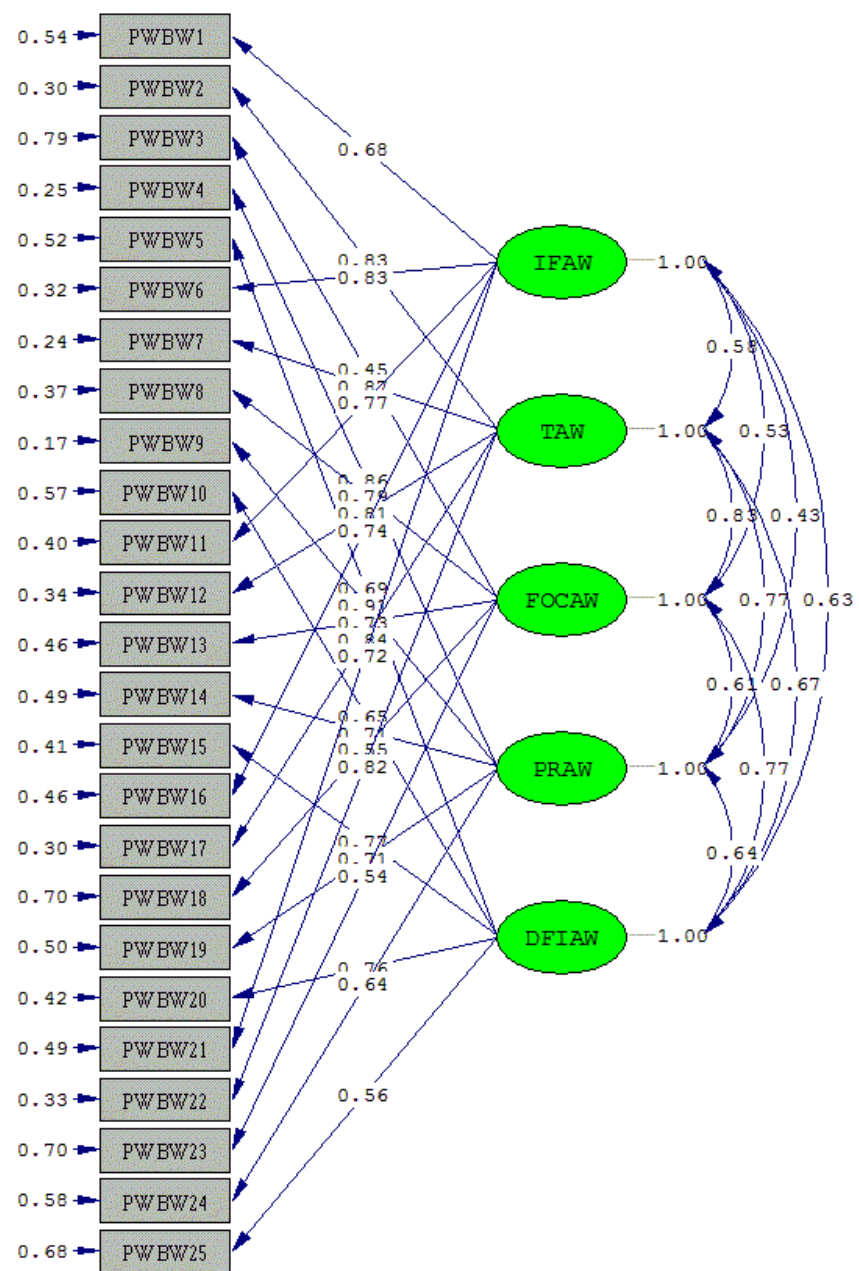
Table 3.30

Test of Multivariate Normality for the IPWBW

Skewness			Kurtosis			Skewness and Kurtosis	
Value	Z-score	P-value	Value	Z-score	P-value	Chi-square	P-value
203.756	37.457	.000	896.462	17.103	.000	1695.530	.000

3.5.7.2.2 EVALUATION OF THE MEASUREMENT MODEL

SEM was used to perform a CFA on the IPWBW measurement model. The model consisted of 25 observed variables (X's) and the five unobserved latent variables (ξ 's). The measurement model represented the relationship between the five latent variables of Interpersonal fit at work (IFAW), Thriving at work (TAW), Feeling of competency at work (FOCAW), Perceived recognition at work (PRAW) and Desire for involvement at work (DFIAW) and its unique indicators. The model is presented in Figure 3.7.



Chi-Square=486.31, df=265, P-value=0.00000, RMSEA=0.065

Figure 3.7. Measurement Model of the IPWBW (Standardised Solution)

The goodness of fit statistics of the CFA conducted in LISREL 8.8 is presented in Table 3.31. Findings indicate a Satorra-Bentler Scaled Chi-square value of 486.306 with 265 degrees of freedom. The null hypothesis for perfect fit was rejected ($p < .05$). The test of close fit was unfortunately also rejected ($p = .005$; $p < 0.5$). The measurement model did however obtain a RMSEA $< .08$ which indicated an acceptable fit. The NNFI and CFI fit statistics both exceeded the .95 recommendation. The SRMR value was however fractionally above the suggested .08 cut-off value. The range of fit statistics indicated that the IPWBW measurement model can be described as having an acceptable fit. All the factor loadings were statistically significant and ranged from .454 (item3) to .910 (item 9).

Table 3.31

The Goodness of Fit Statistics for the IPWBW

χ^2	S-B χ^2	df	S-B χ^2 /df	NNFI	CFI	RMR	SRMR	RMSEA (CI)	P(close)
677.204	486.306	265	1.835	.975	.978	.172	.0804	.0646 (.0555; .0736)	.005

Note. χ^2 = Chi-square; S-B χ^2 = Satorra-Bentler Scaled Chi-square; NNFI = Non-normed Fit Index; CFI = Comparative Fit Index; RMR = Root Mean Square Residuals; SRMR = Standardised Root Mean Residual; RMSEA = Root Mean Square Error of Approximation * $p < 0.05$.

3.5.8 SUMMARY OF THE PSYCHOMETRIC INTEGRITY OF THE MEASUREMENT INSTRUMENTS

The results of the item analyses conducted on the range of scales and subscales used in this research are presented in Table 3.32.

Table 3.32

A Summary of the Reliability Results of Measurement Instruments as Representation of the Latent Variables Present in the PWBW in Call Centres Structural Model

Scale	Sample size	Number of items	Mean	Standard deviation	Cronbach alpha
PCQ-24	201	22	96.418	15.700	.882
WRKLD	201	3	11.428	4.197	.564
EMOLAB	201	3	8.950	3.171	.768
SS	201	3	7.448	3.245	.891
CWS	201	3	6.517	2.530	.830
AUT	201	3	12.935	4.668	.792
DIS	201	4	10.045	2.699	.793
EXH	201	4	11.179	2.920	.829
IPWBW	201	25	111.597	23.931	.942

Note. PCQ-24 = Psychological Capital Questionnaire Self-Rater Version; WRKLD = Workload; EMOLAB = Emotional Labour; SS = Supervisor Support; CWS = Co-worker Support; AUT = Autonomy; DIS = Disengagement; EXH = Exhaustion; IPWBW = Index of Psychological Well-being at Work.

Item analyses revealed that all of the scales, barring the Workload scale, achieved Cronbach alphas greater than .70. Five of the scales achieved a reliability coefficient greater than .80. With the exception of one instrument, all scales and subscales provided evidence of satisfactory internal consistency. The study highlighted the low reliability coefficient reported for the Workload scale, elaborated on reasons for its selection, and acknowledged the possibility of resultant limitations. In total, 10 items were deleted from the composite questionnaire that contained all the scales and subscales used in this research study. More specifically, two items were removed from the PsyCap scale and eight items were removed from the OLBI scale.

The PCQ-24 and IPWBW scales achieved satisfactory CFA results. However, the OLBI scale yielded poor CFA outcomes and an EFA was performed to determine the scale's underlying factor structure. The scale was again subjected to CFA analysis to find support for the factor structure derived from the EFA results. The final CFA performed on the OLBI scale yielded satisfactory results. The CFA analyses on the Workload, Emotional labour, Autonomy, Supervisor support and Co-worker support measures proved to be an unproductive exercise as all the models were declared saturated. In search of psychometric support for these instruments, it was decided to subject each scale to an EFA. The resultant EFA analyses found support for uni-dimensionality in all cases.

In conclusion, the evidence and reasoning provided support the use of all the measures to represent the latent variables it was assigned to for the purposes of this study.

3.6 SUMMARY

This chapter discussed the research design employed for the purpose of effectively analysing the data. It also outlined the sampling method, and provided detail on the research participants and data collection procedure. Part of these discussions included the important ethical considerations that apply to this study. The various data analysis techniques employed in this study were also discussed. The chapter concluded with an analysis of the measurement instruments and its psychometric properties. Chapter 4 will discuss the results in detail.

CHAPTER 4: RESULTS

4.1 INTRODUCTION

The various research methods chosen to analyse the data was outlined in chapter three and the results are discussed in this chapter. The aim of this study was to uncover the nomological network of latent variables (see Figure 3.2) to explain variance in the PWBW of people working in call centres by investigating the respective relationships between the proposed constructs. This chapter reports on the empirical evidence obtained in this study.

The discussions start with adjustments made to the proposed structural model as enforced by the sample size. Details concerning the sample characteristics and item parcelling are also elaborated on. The results of the CFA and fitting of the measurement model and structural model using SEM are also reported.

4.2 SAMPLE SIZE RESTRICTIONS ON THE EVALUATION OF THE INTERACTION HYPOTHESES

The quest of obtaining the sample size required to test the hypothesised structural model as originally planned (see Figure 3.2) unfortunately proved to be too an ambitious undertaking. In chapter 3 it was noted that a sample size of 2280 was needed for this task, however it was only possible to secure 201 participants. Testing the proposed structural model with a sample size of only 201 would severely impact on the credibility of the results obtained.

Due to the above, it was decided not to proceed with assessing the interaction effects. This left the model with 72 freed parameters which implied, according to the 5:1 rule-of-thumb, that the study will require a sample size of 360 respondents. As such, the obtained sample size fell short of the Bentler and Chou (as cited in Kelloway, 1998) guidelines concerning the ratio of sample size to number of parameter estimated. Support for a sample size of 200 was however found. According to Kelloway (1998), a sample size of 200 can be regarded as sufficient for most SEM analyses. Bagozzi and Yi (2012) and Hair et al. (2006) also suggested a sample size of 200 and above to be satisfactory. According to these guidelines a sample size of 200 is argued as sufficient to allow for calculation of reliable SEM results. The adjusted structural model is presented in Figure 4.1¹⁷.

¹⁷ Description of latent variables: PSYCAP = Psychological capital; PWBW = Psychological well-being at work; EXH = Exhaustion; DIS = Disengagement; WRKLD = Workload; EMOLAB = Emotional labour; LOSS = Lack of supervisor support; LOCS = Lack of co-worker support; LOA = Lack of autonomy.

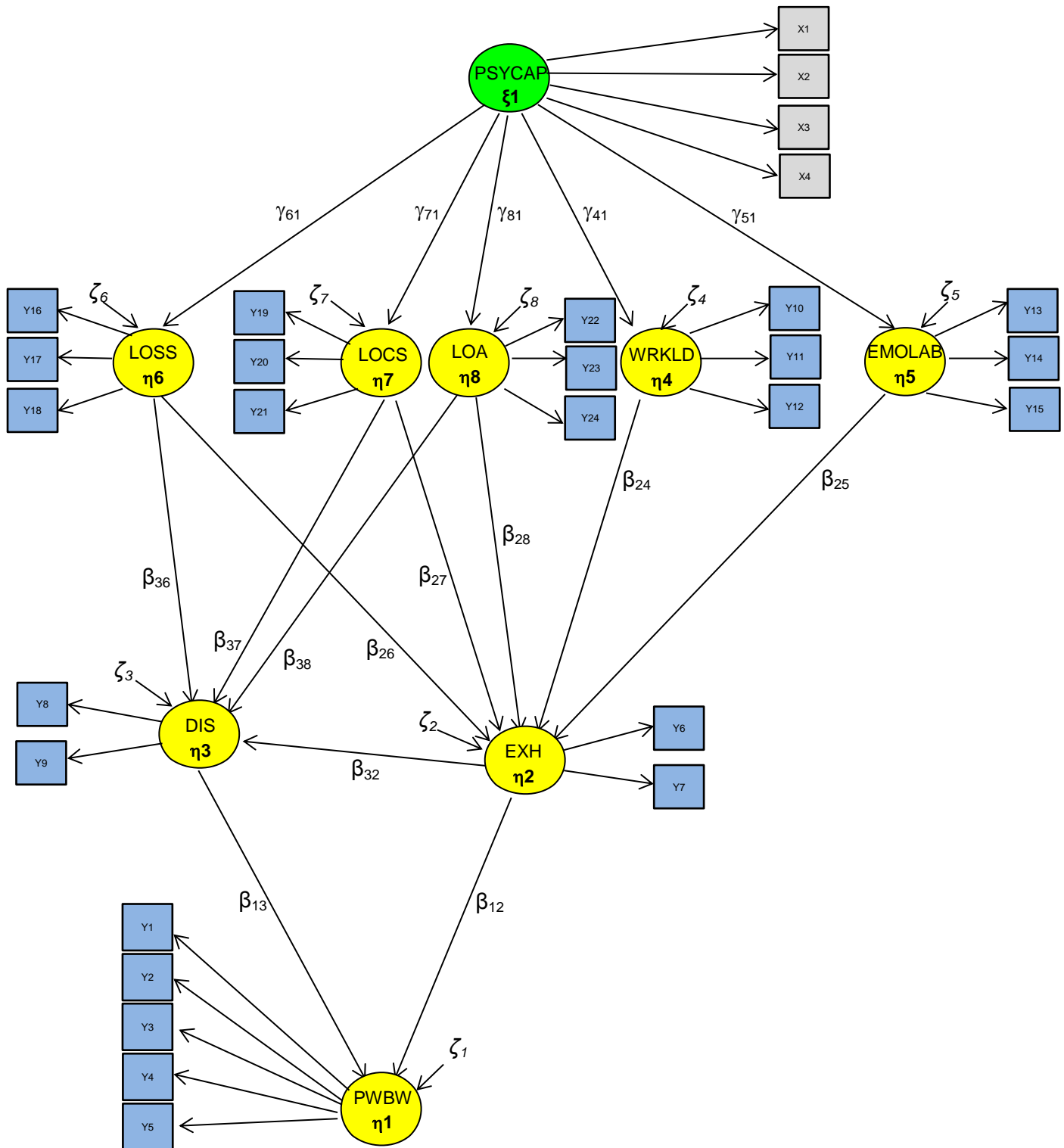


Figure 4.1. The Structural Model of PWBW in Call Centres with Indicators

Adjustments to the proposed structural model also meant that hypotheses referring to the interaction effects were no longer required. As such, the following hypotheses were removed: H_{018} , H_{019} , H_{020} , H_{021} , H_{022} , H_{023} , H_{024} and H_{025} . All other path specific hypotheses were retained and tested for the adjusted PWBW in Call Centres structural model.

4.3 SAMPLE CHARACTERISTICS

Overall, 201 call centre employees from different companies across various industries completed the survey used for this research project. The survey included gender, race, age, and length of service (at the current organisation and in the call centre department). Details are presented in Table 4.1.

From the table it is evident that more than two thirds of the sample was female (73.1%). In terms of race, the majority of the sample was Coloured (52.7%), followed closely by the African group (37.8%). The Indian and White race groups combined accounted for less than 10% of the sample. The sample consisted largely of people who have been working in a call centre between one and five years (51.3%). Those between one and eleven months service accounted for 21.4%. The third biggest group reflected people with a service record of between six and ten years (20.4%). Those with more than 10 years of service made up less than 7% of the sample.

According to Statistics South Africa (2014), 80.2% of the South African population are African, 8.8% Coloured, 2.5% Indian and 8.4% White. Statistics also indicate that approximately 51% of the population is female. It is therefore evident that the study's sample is not representative of the general population demographics for South Africa. This acts as a limitation for the study in terms of the generalisability of the results obtained. The sample predominantly consisted of Coloured females.

The result of the sample characteristics can be attributed to the data collection procedure. Companies were contacted at random and those who agreed to participate were included in the study. Seven of the nine participating companies were situated in the Western Cape, whilst the remaining two were situated in the Pretoria region. Most of these companies operate in the financial industry whilst some are part of the clothing industry. The sample represented the combined characteristics of the participating companies, and as such, the random selection method failed to accurately reflect the population demographics for South Africa.

The means of data collection did however have some advantages. Firstly, the fact that a number of companies participated has guarded against possible confounding variables, such as organisational culture, that could contaminate and further complicate the generalisability of results. Secondly, while the sample characteristics did not reflect the population demographics of South Africa, it can be considered a closer representation of the demographical information of those who are employed in call centres in South Africa,

especially Cape Town. Viewed from this perspective the generalisability of results can be argued to be more acceptable as the focus of this study is on the call centre environment.

Table 4.1

Sample Characteristics in terms of Gender, Race, Age and Years of Service

Gender		
Category	Frequency	Percentage
Male	54	26.9
Female	147	73.1
Race		
Category	Frequency	Percentage
African	76	37.8
Indian / Asian	11	5.5
Coloured	106	52.7
White	8	4.0
Age		
Category	Frequency	Percentage
18-19	3	1.5
20-29	102	50.7
30-39	78	38.8
40-49	13	6.5
50-59	5	2.5
Length of Service		
Category	Frequency	Percentage
1-11 months	43	21.4
1-5 years	103	51.2
6-10 years	41	20.4
11-15 years	11	5.5
15+ years	3	1.5

4.4 ITEM PARCELS

Item parcels were created for the purpose of assessing the measurement model and structural model. Item parcels serve as indicator variables and are computed from the scale's individual items. Item parcels were created for all scales, with the exception of the stressor scales.

Some arguments against the use of item parcelling exist. Researchers state that parcelling has the potential to improve model fit simply because it reduces the complexity of the model (Marsh, Lüdtke, Nagengast & Morin, 2013). These researchers caution against the improved fit as the parcel model is based on a different set of indicators (parcels), so it is no longer a model for the original data, and because parcelling can mask problems with item measures, with resulting biases in the parameter estimates (Bandalos, 2008; Marsh et al., 2013). It is pointed out that parcelling can hide cross-loadings and other latent constructs that exist in the data (Bandalos, 2002, 2008).

Despite criticism voiced against item parcelling, it has a long history in psychology, dating back to Cattell (1956, 1974) and is currently widely used in CFA studies (Little, Cunningham, Shahar & Widaman, 2002). Item parcelling has also received generally positive reviews when used under appropriate conditions, such as when the focus is on relations between constructs and when the CFA model fits the data at the item level (Marsh et al., 2013). According to Hall, Snell and Foust (1999) item parcels tend to be more reliable and normally distributed. The use of item parcels was also preferred in this study as it allowed turning ordinal variables into continuous variables, that could be analysed via Maximum Likelihood (or Robust Maximum Likelihood) estimation (Jöreskog & Sörbom, 2006a). Parcelling also has the advantage of guarding against having an extensively comprehensive model with a large number of parameters that need to be estimated.

In this study the item parcels for PsyCap were created by grouping the items according to the instrument's four subscales. Similarly, the five item parcels created for PWBW was formed on the basis of its five subscales. Item parcels were also created for Exhaustion and Disengagement, and the first step entailed assigning the items to the two different burnout factors as suggested by the EFA analysis. Thereafter, two random item parcels were created for each factor. For the stressors (Workload, Emotional labour, Lack of autonomy, Lack of supervisor support and Lack of co-worker support), the individual items were treated as indicators variables. This was done as each of the stressor scales only comprised of three items which made it difficult to create item parcels.

4.5 MEASUREMENT MODEL

The measurement model defines the relations that exist between the various latent variables (unobserved constructs) and their respective indicators (observed behaviour). The measurement model assesses the contribution of the indicator measures as well as their reliability in the estimation of the relationships that exists between the exogenous and endogenous variables in the model. It therefore represents a confirmatory factor analysis (CFA) model which specifies the pattern by which the measures load onto the exogenous and endogenous variables. CFA helps to determine whether the preconceived measurement theory regarding the constructs included in the study should be rejected or accepted. Answering the research question can only be considered once the underlying factor structure is accepted.

Based on the goodness of fit statistics as reported by LISREL 8.8, the overall fit of the measurement model was evaluated. Model fit can be explained as the degree to which the theoretical model is consistent with the data (Steyn, 2011).

4.5.1 DATA SCREENING

Univariate and multivariate normality was tested with PRELIS (Jöreskog & Sörbom, 1996b). The individual items and item parcels used as indicators were defined as continuous data. The null hypothesis for univariate normality was rejected ($p < .05$) for all but five indicators. The null hypothesis of multivariate normality was also rejected (skewness and kurtosis: $\chi^2 = 254.856$, $p = .000$). As such, Robust Maximum Likelihood (RML) estimation was used to derive model parameter estimates. Normality statistics is presented in Table 4.2.

Table 4.2

Test of Multivariate Normality for the Measurement Model

Skewness			Kurtosis			Skewness and Kurtosis	
Value	Z-score	P-value	Value	Z-score	P-value	Chi-square	P-value
160.821	13.374	.000	906.701	8.717	.000	254.856	.000

4.5.2 EVALUATION OF THE MEASUREMENT MODEL FIT

LISREL 8.8 was used to perform a CFA on the PWBW in Call Centres measurement model. The aim was to investigate whether the measurement model closely reproduced the observed covariance matrix, in other words, if the model fit the data well. The measurement model fit is depicted in Figure 4.2.

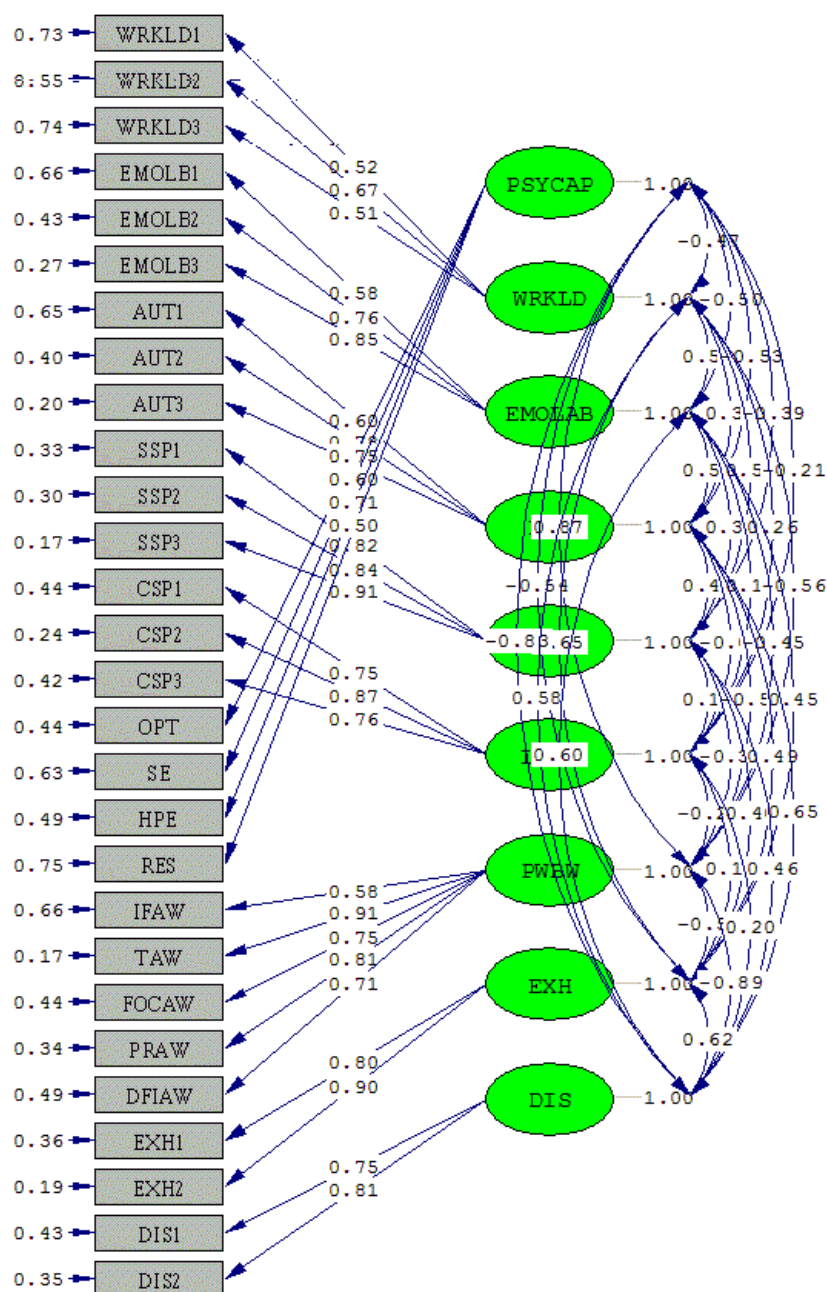


Figure 4.2. The PWBW in Call Centres Measurement Model (Standardised Solution)

The goodness of fit statistics, as presented in Table 4.3, was evaluated to determine whether an acceptable model fit had been attained. A Satorra-Bentler Chi-square value of 507.537 with 314 degrees of freedom, and $p=.000$ was reported. Consequently, the null hypothesis for exact fit was rejected ($p<.05$). Support was however found for the null hypothesis for close fit ($p=.151$; $p>.05$). Furthermore, the RMSEA was below .08 which indicated that the model fitted the data reasonably well. Regarding the incremental fit statistics, both the CFI (.973) and NNFI (.968) values were above the .95 benchmark. The SRMR (.0642) was also satisfactory and below the .80 cut-off value. The fact that the

measurement model obtained a close fit was satisfactory and provided confidence in the measurement model.

Table 4.3

The Goodness of Fit Statistics for the PWBW in Call Centres Measurement Model

χ^2	S-B χ^2	df	S-B χ^2 /df	NNFI	CFI	RMR	SRMR	RMSEA (CI)	P(close)
555.527	507.537	314	1.616	0.968	0.973	0.108	0.0642	0.0555 (0.0465; 0.0642)	0.151

Note. χ^2 = Chi-square; S-B χ^2 = Satorra-Bentler Scaled Chi-square; df = Degrees of Freedom; NNFI = Non-normed Fit Index; CFI = Comparative Fit Index; RMR = Root Mean Square Residuals; SRMR = Standardised Root Mean Residual; RMSEA = Root Mean Square Error of Approximation *p < 0.05.

4.5.3 EVALUATION OF THE MODIFICATION INDICES

Modification indices (MI) serve as suggestions to modify (or improve) the model fit. The data can suggest that specific items also reflect another dimension and that by opening these paths it may increase the model fit. Modification indices show the extent to which the χ^2 fit statistic will decrease if one of the currently fixed parameters in the model is freed (Jöreskog & Sörbom, 2002). This should however only be done if the theoretical argument for doing so makes substantive sense. Paths should not be opened if the motivation is solely to obtain a better model fit. This would result in the model losing its validity. Modification indices with values greater than 6.64 can be interpreted as parameters that, if set free, would result in a significant improvement in the model's fit (Theron, 2011).

The modification indices were however only evaluated with the purpose of further investigating the measurement model fit. It was not the intention to free any paths and to re-evaluate the model fit. The modification indices are presented in Table 4.4, with values greater than 6.64 highlighted.

Results revealed that 16 of the currently fixed parameters, if set free, would improve the fit of the model significantly. This is a small percentage when compared to the total number of possible ways to modify the model and hence reflected favourably on the fit of the model.

It is worth commenting on two modification indices which achieved somewhat large values. Evidence suggested that a significant improvement in the model fit would be achieved if a path is opened between LOCS and IFAW (MI=51.571). This suggests that an individual's perception of his or her Interpersonal fit at work is a measure of the degree of Co-worker support they receive. This makes theoretical sense as being ostracized or just not fitting in at

work is likely to influence the degree of support one receives from co-workers. A path between DIS and IFAW was also suggested ($MI=28.831$). Freeing this path would mean that an individual's perception of Interpersonal fit at work is a measure of his or her level of Disengagement. As previously discussed, the JD-R model stated that a lack of job resources can lead to Disengagement. If viewed from the perspective that Interpersonal fit at work in some form represents a measure of job resources (such as social support), some argument can be made in support of this path. However, no paths were freed in subsequent analyses as the intention was to protect the integrity of the instruments included.

Table 4.4

Modification Indices for Lambda-x Matrix (Measurement Model)

Indicator	PSYCAP	WRKLD	EMOLAB	LOA	LOSS	LOCS	PWBW	EXH	DIS
WRKLD1	4.949	--	2.836	1.771	6.328	0.426	4.835	0.846	4.358
WRKLD2	6.178	--	2.621	11.495	5.919	0.091	4.260	0.001	8.405
WRKLD3	0.241	--	0.057	6.007	0.164	1.129	0.064	1.202	1.812
EMOLB1	0.087	1.863	--	4.416	2.530	0.001	0.178	1.209	0.249
EMOLB2	0.072	0.569	--	0.082	0.357	0.293	0.002	0.208	0.061
EMOLB3	0.204	0.001	--	1.046	0.230	0.272	0.053	1.188	0.267
AUT1	4.192	2.458	0.001	--	1.069	0.020	3.749	3.998	3.559
AUT2	0.255	0.423	0.809	--	0.412	0.031	2.058	1.202	0.763
AUT3	0.537	0.146	0.569	--	1.376	0.005	0.019	0.027	0.069
SSP1	0.041	2.512	2.133	0.634	--	0.006	0.297	1.335	0.004
SSP2	5.422	2.307	0.135	0.381	--	0.187	3.922	0.300	3.881
SSP3	3.576	0.002	2.410	1.400	--	0.192	1.650	0.226	2.870
CSP1	0.008	0.114	0.919	0.038	0.824	--	0.012	1.208	0.237
CSP2	0.168	0.628	0.525	0.285	0.010	--	0.173	1.078	0.007
CSP3	0.160	0.352	0.009	0.679	0.588	--	0.153	0.022	0.136
OPT	--	0.806	2.442	1.161	0.002	0.150	13.257	0.091	12.146
SE	--	8.329	4.422	0.009	2.636	0.350	0.881	0.932	3.663
HPE	--	0.620	0.286	0.283	0.019	6.749	1.358	0.449	0.308
RES	--	1.769	0.098	1.022	4.977	6.472	--	0.034	--
IFAW	7.165	0.999	1.821	12.864	0.192	51.601	--	6.196	28.831
TAW	0.743	3.839	11.114	5.414	2.964	8.083	--	1.474	9.214
FOCAW	--	2.514	1.217	1.413	0.044	1.734	--	0.563	--
PRAW	0.010	3.976	0.096	0.489	10.944	0.241	--	3.770	0.009
DFIAW	1.206	12.848	6.993	0.852	1.168	0.010	--	4.131	3.670
EXH1	0.431	0.665	1.520	1.376	0.551	0.006	0.031	--	0.052
EXH2	0.240	0.274	1.272	1.052	0.418	0.006	0.018	--	0.024
DIS1	--	2.215	0.309	5.528	0.228	0.745	--	0.765	--
DIS2	--	1.027	0.246	2.298	0.152	0.685	--	0.288	--

Note. PSYCAP = Psychological capital; WRKLD = Workload; EMOLAB = Emotional labour; LOA = Lack of autonomy; LOSS = Lack of supervisor support; LOCS = Lack of co-worker support; PWBW = Psychological well-being at work; EXH = Exhaustion; DIS = Disengagement; WRKLD1 = WRKLD indicator 1; WRKLD2 = WRKLD indicator 2; WRKLD3 = WRKLD indicator 3; EMOLB1 = EMOLAB indicator 1; EMOLB2 = EMOLAB indicator 2; EMOLB3 = EMOLAB indicator 3; AUT1 = LOA indicator 1; AUT2 = LOA indicator 2; AUT3 = LOA indicator 3; SSP1 = LOSS indicator 1; SSP2 = LOSS indicator 2; SSP3 = LOSS indicator 3; CSP1 = LOCS indicator 1; CSP2 = LOCS indicator 2; CSP3 = LOCS indicator 3; OPT = PSYCAP parcel Optimism; SE = PSYCAP parcel Self-efficacy; HPE = PSYCAP parcel Hope; RES = PSYCAP parcel Resilience; IFAW = PWBW parcel Interpersonal fit at work; TAW = PWBW parcel Thriving at work; FOCAW = PWBW parcel Feeling of competency at work; PRAW = PWBW parcel Perceived recognition at work; DFIAW = PWBW parcel Desire for involvement at work; EXH1 = EXH parcel 1; EXH2 = EXH parcel 2; DIS1 = DIS parcel 1; DIS2 = DIS parcel 2.

4.5.4 EVALUATION OF THE MODEL PARAMETER ESTIMATES

The goodness of fit statistics and number of significant MI values all supported, and reflected favourably on the measurement model fit obtained. The model fit was further investigated by means of interpreting the unstandardised lambda-x matrix, completely standardised lambda-x solution, phi values, and the theta-delta values.

The unstandardised factor loading matrix for lambda-x allows the interpretation of the magnitude and statistical significance of the slope of the regression of the observed latent variables on its respective unobserved latent variables, which provides an indication of the measure's validity (Prinsloo, 2013). Therefore, a scale can be perceived as successful in measuring the intended latent variable if the slope of the regression of X_i on ξ_j is significant (Diamantopoulos & Siguaw, 2000). The factor loadings are declared significant if the t -values exceed 1.96. The unstandardised factor loading matrix for lambda-x is presented in Table 4.5 and specified that all the indicator variables loaded significantly on the latent variable it was intended to measure.

Table 4.5

The Unstandardised Factor Loading Matrix for Lambda-x (Measurement Model)

Indicator	PSYCAP	WRKLD	EMOLAB	LOA	LOSS	LOCS	PWBW	EXH	DIS
WRKLD1	--	0.890 (0.136) 6.568*	--	--	--	--	--	--	--
WRKLD2	--	1.305 (0.134) 9.716*	--	--	--	--	--	--	--
WRKLD3	--	1.040 (0.169) 6.152*	--	--	--	--	--	--	--
EMOLB1	--	--	0.693 (0.089) 7.759*	--	--	--	--	--	--
EMOLB2	--	--	0.979 (0.075) 13.095*	--	--	--	--	--	--
EMOLB3	--	--	1.150 (0.070) 16.518*	--	--	--	--	--	--
AUT1	--	--	--	1.024 (0.114) 8.973*	--	--	--	--	--
AUT2	--	--	--	1.476 (0.102) 14.474*	--	--	--	--	--
AUT3	--	--	--	1.728 (0.089) 19.400*	--	--	--	--	--
SSP1	--	--	--	--	0.929 (0.061) 15.124*	--	--	--	--
SSP2	--	--	--	--	0.996	--	--	--	--

					(0.061) 16.342*				
SSP3	--	--	--	--	1.141 (0.057) 20.153*	--	--	--	--
CSP1	--	--	--	--	--	0.682 (0.054) 12.734*	--	--	--
CSP2	--	--	--	--	--	0.793 (0.051) 15.653*	--	--	--
CSP3	--	--	--	--	--	0.832 (0.059) 13.995*	--	--	--
OPT	0.671 (0.053) 12.583*	--	--	--	--	--	--	--	--
SE	0.580 (0.065) 8.881*	--	--	--	--	--	--	--	--
HPE	0.746 (0.066) 11.346*	--	--	--	--	--	--	--	--
RES	0.398 (0.062) 6.414*	--	--	--	--	--	--	--	--
IFAW	--	--	--	--	--	--	0.599 (0.069) 8.671*	--	--
TAW	--	--	--	--	--	--	1.327 (0.058) 23.011*	--	--
FOCAW	--	--	--	--	--	--	0.700 (0.058) 12.152*	--	--
PRAW	--	--	--	--	--	--	1.117 (0.067) 16.675*	--	--
DFIAW	--	--	--	--	--	--	0.730 (0.062) 11.825*	--	--
EXH1	--	--	--	--	--	--	--	0.619 (0.050) 12.258*	--
EXH2	--	--	--	--	--	--	--	0.722 (0.046) 15.605*	--
DIS1	--	--	--	--	--	--	--	--	0.565 (0.051) 10.993*
DIS2	--	--	--	--	--	--	--	--	0.609 (0.043) 14.015*

Note. PSYCAP = Psychological capital; WRKLD = Workload; EMOLAB = Emotional labour; LOA = Lack of autonomy; LOSS = Lack of supervisor support; LOCS = Lack of co-worker support; PWBW = Psychological well-being at work; EXH = Exhaustion; DIS = Disengagement; WRKLD1 = WRKLD indicator 1; WRKLD2 = WRKLD indicator 2; WRKLD3 = WRKLD indicator 3; EMOLB1 = EMOLAB indicator 1; EMOLB2 = EMOLAB indicator 2; EMOLB3 = EMOLAB indicator 3; AUT1 = LOA indicator 1; AUT2 = LOA indicator 2; AUT3 = LOA indicator 3; SSP1 = LOSS indicator 1; SSP2 = LOSS indicator 2; SSP3 = LOSS indicator 3; CSP1 = LOCS indicator 1; CSP2 = LOCS indicator 2; CSP3 = LOCS indicator 3; OPT = PSYCAP parcel Optimism; SE = PSYCAP parcel Self-efficacy; HPE = PSYCAP parcel Hope; RES = PSYCAP parcel Resilience; IFAW = PWBW parcel Interpersonal fit at work; TAW = PWBW parcel Thriving at work; FOCAW = PWBW parcel Feeling of competency at work; PRAW = PWBW parcel Perceived recognition at work; DFIAW = PWBW parcel Desire for involvement at work; EXH1 = EXH parcel 1; EXH2 = EXH parcel 2; DIS1 = DIS parcel 1; DIS2 = DIS parcel 2. **t*-values >|1.96| indicates significant path coefficients.

The completely standardised lambda-x matrix was also investigated. The completely standardised estimates report the average change in standard deviation units in the indicator variable associated with one standard deviation change in its related unobserved latent variable (Prinsloo, 2013). Factor loadings exceeding .70 was regarded as strong and satisfying (Hair et al., 2006). Table 4.6 revealed that only 8 of the 28 loadings were below the stringent .70 cut-off. These loadings were: WRKLD1, WRKLD2, WRKLD3, EMOLB1, AUT1, SE, RES and IFAW, as highlighted in Table 4.6. Based on the evidence provided, these indicator variables could be described as underperforming and may be problematic. However, all factor loadings were above .50 and in most cases close or above .60, and therefore did not warrant serious concern.

Table 4.6

The Completely Standardised Solution for Lambda-x (Measurement Model)

Indicator	PSYCAP	WRKLD	EMOLAB	LOA	LOSS	LOCS	PWBW	EXH	DIS
WRKLD1	--	0.518	--	--	--	--	--	--	--
WRKLD2	--	0.670	--	--	--	--	--	--	--
WRKLD3	--	0.505	--	--	--	--	--	--	--
EMOLB1	--	--	0.579	--	--	--	--	--	--
EMOLB2	--	--	0.758	--	--	--	--	--	--
EMOLB3	--	--	0.854	--	--	--	--	--	--
AUT1	--	--	--	0.596	--	--	--	--	--
AUT2	--	--	--	0.776	--	--	--	--	--
AUT3	--	--	--	0.897	--	--	--	--	--
SSP1	--	--	--	--	0.819	--	--	--	--
SSP2	--	--	--	--	0.835	--	--	--	--
SSP3	--	--	--	--	0.910	--	--	--	--
CSP1	--	--	--	--	--	0.751	--	--	--
CSP2	--	--	--	--	--	0.869	--	--	--
CSP3	--	--	--	--	--	0.758	--	--	--
OPT	0.747	--	--	--	--	--	--	--	--
SE	0.604	--	--	--	--	--	--	--	--
HPE	0.712	--	--	--	--	--	--	--	--
RES	0.503	--	--	--	--	--	--	--	--
IFAW	--	--	--	--	--	--	0.580	--	--
TAW	--	--	--	--	--	--	0.910	--	--
FOCAW	--	--	--	--	--	--	0.747	--	--
PRAW	--	--	--	--	--	--	0.811	--	--
DFIAW	--	--	--	--	--	--	0.711	--	--
EXH1	--	--	--	--	--	--	--	0.802	--
EXH1	--	--	--	--	--	--	--	0.900	--
DIS1	--	--	--	--	--	--	--	--	0.755
DIS2	--	--	--	--	--	--	--	--	0.806

Note. PSYCAP = Psychological capital; WRKLD = Workload; EMOLAB = Emotional labour; LOA = Lack of autonomy; LOSS = Lack of supervisor support; LOCS = Lack of co-worker support; PWBW = Psychological well-being at work; EXH = Exhaustion; DIS = Disengagement; WRKLD1 = WRKLD indicator 1; WRKLD2 = WRKLD indicator 2; WRKLD3 = WRKLD indicator 3; EMOLB1 = EMOLAB indicator 1; EMOLB2 = EMOLAB indicator 2; EMOLB3 = EMOLAB indicator 3; AUT1 = LOA indicator 1; AUT2 = LOA indicator 2; AUT3 = LOA indicator 3; SSP1 = LOSS indicator 1; SSP2 = LOSS indicator 2; SSP3 = LOSS indicator 3; CSP1 = LOCS indicator 1; CSP2 = LOCS indicator 2; CSP3 = LOCS indicator 3; OPT = PSYCAP parcel Optimism; SE = PSYCAP parcel Self-efficacy; HPE = PSYCAP parcel Hope; RES = PSYCAP parcel Resilience; IFAW = PWBW parcel Interpersonal fit at work; TAW = PWBW parcel Thriving at work; FOCAW = PWBW parcel Feeling of competency at work; PRAW = PWBW parcel Perceived recognition at work; DFIAW = PWBW parcel Desire for involvement at work; EXH1 = EXH parcel 1; EXH2 = EXH parcel 2; DIS1 = DIS parcel 1; DIS2 = DIS parcel 2. *t-values >|1.96| indicates significant path coefficients.

Table 4.7 contains the correlations between the latent variables. The evidence indicated a high correlation between PSYCAP and PWBW (0.868), and a possible explanation may be the fact that both constructs are related to well-being. PWBW and DIS also presented evidence of a high negative correlation (-0.889). This observation can be ascribed to the fact that PWBW captures ideologies which can be perceived as the antithesis of a state of disengagement. Irrespective of the reasons provided, it is never ideal to have constructs correlating too highly. In this regard, correlations in excess of .90 are considered problematic and indicative of multicollinearity. The correlations between PSYCAP and PWBW, and PWBW and DIS were however below this benchmark. Furthermore, the correlation between PSYCAP and DIS (-0.830) were just over .80, whilst all other correlations were below .70. As such, the inter-correlations as presented in the phi matrix did not warrant too much concern.

Table 4.7

Phi Values (Measurement Model)

	PSYCAP	WRKLD	EMOLAB	LOA	LOSS	LOCS	PWBW	EXH	DIS
PSYCAP	1.000								
WRKLD	-0.474	1.000							
EMOLAB	-0.505	0.543	1.000						
LOA	-0.533	0.352	0.496	1.000					
LOSS	-0.389	0.505	0.371	0.473	1.000				
LOCS	-0.209	0.258	0.153	-0.045	0.184	1.000			
PWBW	0.868	-0.557	-0.452	-0.521	-0.382	-0.290	1.000		
EXH	-0.540	0.646	0.451	0.491	0.397	0.183	-0.580	1.000	
DIS	-0.830	0.585	0.604	0.654	0.457	0.204	-0.889	0.619	1.000

Note. PSYCAP = Psychological capital; WRKLD = Workload; EMOLAB = Emotional labour; LOA = Lack of autonomy; LOSS = Lack of supervisor support; LOCS = Lack of co-worker support; PWBW = Psychological well-being at work; EXH = Exhaustion; DIS = Disengagement.

The theta-delta values were also reviewed to determine the error variance associated with each indicator variable. The error variance is expected to be small, but significant for each of the indicator variables (Theron, 2011). Finding no error variance can be described as suspicious or too good to be true, making it difficult to trust the results obtained under such conditions.

All the theta-delta statistics reported were significant (t -values > |1.96|), however some of the error values were fairly high and these included: WRKLD1 (.731); WRKLD3 (.745); EMOLAB1 (.665); AUT1 (.645); SE (.635); RES (.747) and IFAW (.663). These results indicated that a large portion of the variance explained by each of these indicators is due to random error, which is not ideal. The error variance associated with all other indicators was however 'acceptable' as values were either below .50 or very close to it.

Based on the overall results presented in this section strong evidence exist to support the measurement model fit and the ability of the indicator variables to successfully measure the

latent variables it was designed to. Having established trust in the measures to be used meant that evaluation of the structural model could be performed with confidence.

4.6 STRUCTURAL MODEL

The structural model defines the paths or relations between the exogenous (independent) and endogenous (dependent) variables. It specifies the manner by which the variables are theorised to directly or indirectly influence changes in the values of other variables in the model. As such, the structural model was investigated in order to determine the statistical significance of the proposed paths. Stated differently, the purpose was to determine whether the hypotheses, as derived from the literature study, are supported.

4.6.1 EVALUATION OF THE STRUCTURAL MODEL FIT

The PWBW in Call Centres structural model was tested by making use of SEM. The structural model was evaluated using LISREL 8.8. Robust Maximum Likelihood (RML) estimation was used to derive model parameter estimates. Figure 4.3 presents a graphical representation of the structural model fit.

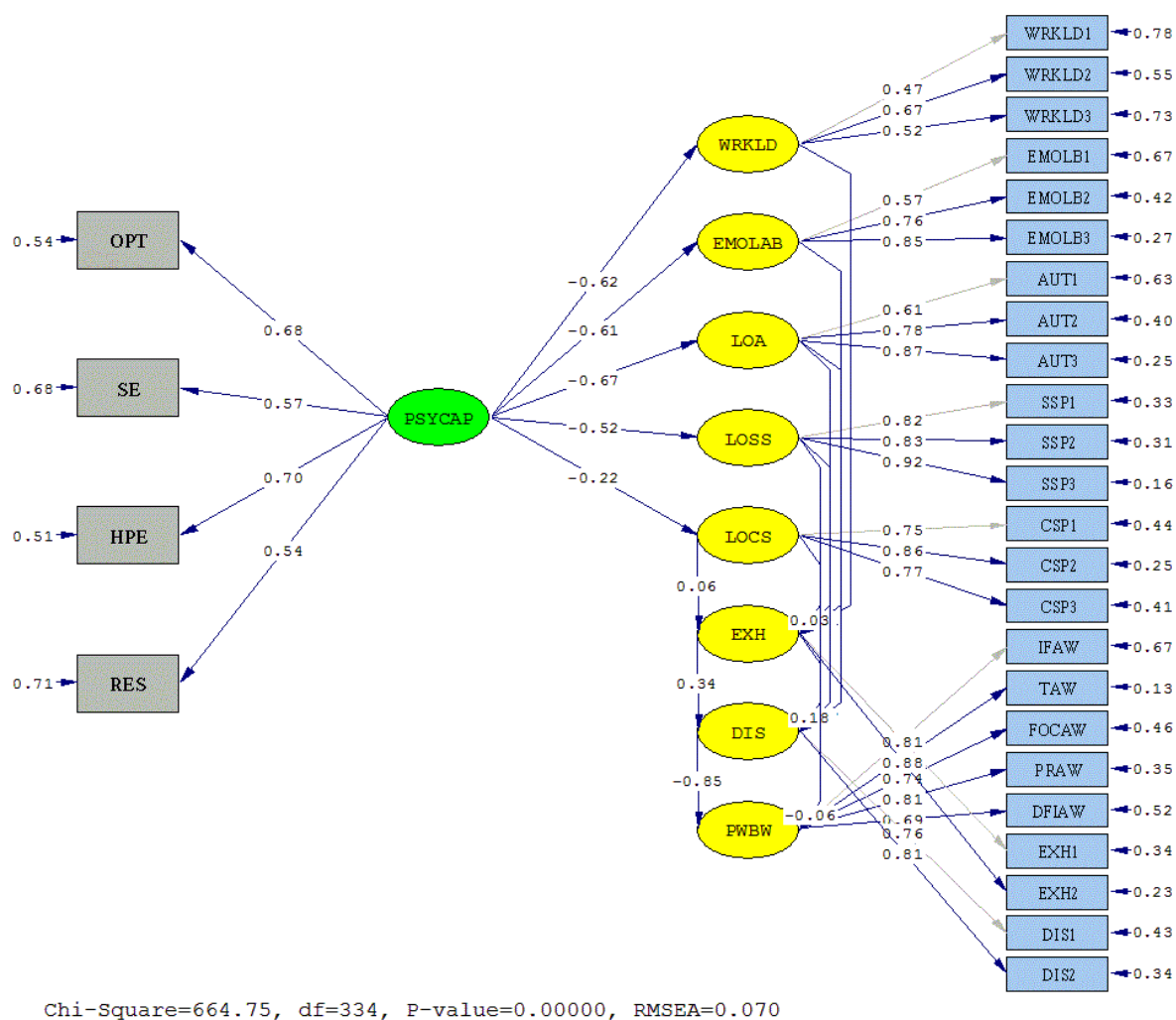


Figure 4.3. The Standardised Solution of the PWBW in Call Centres Structural Model

The Goodness of fit statistics obtained for the structural model are presented in Table 4.8. A Satorra-Bentler Chi-square value of 664.753, with 334 degrees of freedom, and $p=.000$ was reported. This meant that the null hypothesis for exact fit was rejected ($p<.05$). However, the general consensus is that the null hypothesis of exact fit is a somewhat unrealistic proposition. In addition, the null hypothesis for close fit was unfortunately also rejected ($p=.000$; $p<.05$).

The structural model did however fit the data reasonably well ($RMSEA <.08$). Furthermore, the 90% confidence interval for RMSEA (0.0625; 0.0782) was narrow and its upper limit fell below the .80 cut-off for reasonable fit.

The incremental fit statistics reported a NNFI of 0.949 and a CFI of 0.955. Both these indices were believed to be satisfactory given the recommended .95 cut-off.

The model unfortunately reported a SRMR value of 0.0907 which was above the .08 benchmark.

Table 4.8

The Goodness of Fit Statistics for the PWBW in Call Centres Structural Model

χ^2	S-B χ^2	df	S-B χ^2 /df	NNFI	CFI	RMR	SRMR	RMSEA (CI)	P(close)
725.169	664.753	334	1.990	0.949	0.955	0.144	0.0907	0.0704 (0.0625; 0.0782)	0.000

Note. χ^2 = Chi-square; S-B χ^2 = Satorra-Bentler Scaled Chi-square; df = Degrees of Freedom; NNFI = Non-normed Fit Index; CFI = Comparative Fit Index; RMR = Root Mean Square Residuals; SRMR = Standardised Root Mean Residual; RMSEA = Root Mean Square Error of Approximation *p < 0.05.

With the exception of the SRMR value, all of the fit statistics were satisfactory and indicative of a reasonable model fit. Diamantopoulos and Siguaw (2000) did however warn that no one fit statistic is superior to the rest. Therefore, given the basket of evidence, it is fair to say that the structural model was able to reproduce the observed covariance matrix to a degree that warranted some confidence in the interpretation of the derived parameter estimates. It was however disappointing that the model did not obtain a close fit. The researcher's belief was that had the sample size supported the inclusion of the various interaction effects (between PsyCap and the individual stressors), the model fit could possibly have been more robust. The interaction effects was a strong component of the philosophy regarding the phenomenon of PWBW in call centres and leaving it out, by use of an analogy, amounted to building a puzzle without all the pieces.

4.6.2. EVALUATING THE STRUCTURAL MODEL PARAMETER ESTIMATES

The unstandardised beta matrix is presented in Table 4.9 and was interpreted to establish if support was found for the path specific hypotheses between the endogenous variables. It was revealed that the following path specific hypotheses could not be rejected (t -values > |1.96|): Disengagement will have a direct negative relationship with PWBW (H_{03}); Workload will have a direct positive relationship with Exhaustion (H_{04}); Lack of co-worker support will have a direct positive relationship with Disengagement (H_{09}); Lack of autonomy will have a direct positive relationship with Exhaustion (H_{010}); Lack of autonomy will have a direct positive relationship with Disengagement (H_{011}); Exhaustion will have a direct positive relationship with Disengagement (H_{012}).

The unstandardised beta matrix revealed that 5 of the 11 paths were rejected in favour of the H_a hypotheses. These hypotheses were: Exhaustion will have a direct negative relationship

with PWBW (H_{02}); Emotional labour will have a direct positive relationship with Exhaustion (H_{05}); Lack of supervisor support will have a direct positive relationship with Exhaustion (H_{06}); Lack of supervisor support will have a direct positive relationship with Disengagement (H_{07}); Lack of co-worker support will have a direct positive relationship with Exhaustion (H_{08}).

Table 4.9

Unstandardised Beta Matrix for Structural Model

	WRKLD	EMOLAB	LOA	LOSS	LOCS	EXH	DIS	PWBW
WRKLD	--	--	--	--	--	--	--	--
EMOLAB	--	--	--	--	--	--	--	--
LOA	--	--	--	--	--	--	--	--
LOSS	--	--	--	--	--	--	--	--
LOCS	--	--	--	--	--	--	--	--
EXH	0.539 (0.152)	0.110 (0.077)	0.223 (0.089)	0.031 (0.075)	0.059 (0.077)	--	--	--
DIS	3.538*	1.420	2.519*	0.411	0.759	0.345 (0.105)	--	--
PWBW	--	--	0.467 (0.117)	0.072 (0.070)	0.177 (0.064)	3.299* (0.083)	-0.851 (0.146)	--
			3.995*	1.029	2.755*	-0.704	-5.817*	

Note. WRKLD = Workload; EMOLAB = Emotional labour; LOA = Lack of autonomy; LOSS = Lack of supervisor support; LOCS = Lack of co-worker Support; EXH = Exhaustion; DIS = Disengagement; PWBW = Psychological well-being at work. * t -values > |1.96| indicates significant path coefficients.

The unstandardised gamma matrix for the structural model, as presented in Table 4.10, revealed that all the path specific hypotheses between the exogenous latent variable and the endogenous latent variables were supported and could not be rejected. More specifically these hypotheses were: PsyCap will have a direct negative relationship with Workload (H_{013}); PsyCap will have a direct negative relationship with Emotional labour (H_{014}); PsyCap will have a direct negative relationship with Lack of supervisor support (H_{015}); PsyCap will have a direct negative relationship with Lack of co-worker support (H_{016}); PsyCap will have a direct negative relationship with Lack of autonomy (H_{017}).

Table 4.10

Unstandardised Gamma Matrix for Structural Model

	PSYCAP
WRKLD	-0.623 (0.134)
EMOLAB	-4.638* -0.605 (0.111)
LOA	-5.436* -0.667 (0.096)
LOSS	-6.917* -0.518 (0.074)
LOCS	-6.978* -0.222 (0.084)
EXH	--
DIS	--
PWBW	--

Note. PSYCAP = Psychological capital; WRKLD = Workload; EMOLAB = Emotional labour; LOA = Lack of autonomy; LOSS = Lack of supervisor support; LOCS = Lack of co-worker support; EXH = Exhaustion; DIS = Disengagement; PWBW = Psychological well-being at work. **t*-values > |1.96| indicates significant path coefficients.

4.6.3 EVALUATION OF THE MODIFICATION INDICES

The modification indices for beta and gamma were evaluated (see Table 4.11 and 4.12) to determine if any additional paths could be added to improve the model fit. It was found that 16 currently fixed parameters ($MI > 6.64$), if set free, would significantly improve the model fit ($p < .01$). These modification indices were highlighted in its respective tables, and included paths between: WRKLD and EMOLAB ($MI = 8.176$); WRKLD and DIS ($MI = 13.801$); EMOLAB and WRKLD ($MI = 7.380$); EMOLAB and DIS ($MI = 8.409$); LOA and LOSS ($MI = 6.871$); LOA and LOCS ($MI = 9.711$); LOSS and WRKLD ($MI = 7.101$); LOSS and LOA ($MI = 7.731$); LOCS and LOA ($MI = 10.536$); EXH and EMOLAB ($MI = 27.597$); DIS and LOA ($MI = 10.538$); DIS and LOCS ($MI = 10.355$); DIS and EXH ($MI = 10.105$); PWBW and LOA ($MI = 17.093$); PSYCAP and DIS ($MI = 52.194$); and PSYCAP and PWBW ($MI = 11.892$).

One somewhat large MI is commented on. This is the path between PSYCAP and the burnout dimension of DIS. Opening this path would imply that an individual's level of PsyCap is related to his or her experience of Disengagement. As mentioned earlier, it is important for such paths to be theoretically justifiable and that a very convincing argument should be formulated before any additional paths is opened. In this regard, it is fair that say that

enough theoretical and empirical evidence exists to support the above mentioned path. PsyCap has been referred to as a cognitive resource which individuals can draw from to influence their environment in order to cope, adapt and to thrive. Also, a number of studies support the idea that individuals with high PsyCap are more engaged (e.g., Avey et al., 2008). It is therefore not surprising to find a MI suggestive of this mentioned path.

In the end it was decided against freeing any of the mentioned paths. Inclusion of these paths should be considered in future studies which may benefit from investigating the proposed relationships.

Table 4.11

Modification Indices for Beta Matrix

	WRKLD	EMOLAB	LOA	LOSS	LOCS	EXH	DIS	PWBW
WRKLD	--	7.380	0.376	7.101	2.358	0.086	0.362	0.512
EMOLAB	8.176	--	6.169	1.222	0.136	27.597	3.518	0.168
LOA	0.278	5.028	--	7.731	10.536	0.849	10.538	17.093
LOSS	5.325	0.998	6.871	--	1.031	5.054	0.302	2.407
LOCS	1.877	0.121	9.711	1.001	--	0.017	10.355	2.882
EXH	--	--	--	--	--	--	10.105	6.312
DIS	13.801	8.409	--	--	--	--	--	0.012
PWBW	4.553	0.000	1.192	0.448	3.279	--	--	--

Note. WRKLD = Workload; EMOLAB = Emotional labour; LOA = Lack of autonomy; LOSS = Lack of supervisor support; LOCS = Lack of co-worker support; EXH = Exhaustion; DIS = Disengagement; PWBW = Psychological well-being at Work.

Table 4.12

Modification Indices for Gamma Matrix

	PSYCAP
WRKLD	--
EMOLAB	--
LOA	--
LOSS	--
LOCS	--
EXH	--
DIS	52.194
PWBW	11.892

Note. PSYCAP = Psychological capital; WRKLD = Workload; EMOLAB = Emotional labour; LOA = Lack of autonomy; LOSS = Lack of supervisor support; LOCS = Lack of co-worker support; EXH = Exhaustion; DIS = Disengagement; PWBW = Psychological well-being at work.

4.7 EVALUATION OF THE PROPOSED RESEARCH HYPOTHESES

The hypotheses for the current study were formulated with reference to the relationships between the latent variables theorised to explain the phenomenon of PWBW in call centres. These hypotheses were tested in order to establish the degree to which the hypothesised

structural model adequately predicts/explains variance in PWBW in call centres. The t statistic for the beta and gamma matrices was used to evaluate the path specific hypotheses, see Table 4.9 and 4.10 presented earlier.

Hypothesis 1 stated that the structural model provided a valid account of the psychological processes responsible for variance in individual PWBW in call centres. The RMSEA was ($df = 334$, $N = 201$) .0704, $p < .05$ which indicated that the null hypothesis for exact fit H_{01a} : RMSEA = 0 was rejected for H_{a1a} : RMSEA > 0. Furthermore, the null hypothesis for close fit H_{01b} : RMSEA $\leq .05$ was also rejected in favour of H_{a1b} : RMSEA > .05 which indicated that the model did not fit the data closely. The hypothesis for reasonable fit was also tested. Due to the RMSEA = .0704 the H_{01c} : RMSEA $\leq .08$ was not rejected. Therefore it appeared that the final structural model provided a reasonable fit to the data.

The path specific hypotheses that were supported in the final structural model included: Disengagement will have a direct negative relationship with PWBW (H_{03}); Workload will have a direct positive relationship with Exhaustion (H_{04}); Lack of co-worker support will have a direct positive relationship with Disengagement (H_{09}); Lack of autonomy will have a direct positive relationship with Exhaustion (H_{010}); Lack of autonomy will have a direct positive relationship with Disengagement (H_{011}); Exhaustion will have a direct positive relationship with Disengagement (H_{012}); PsyCap will have a direct negative relationship with Workload (H_{013}); PsyCap will have a direct negative relationship with Emotional labour (H_{014}); PsyCap will have a direct negative relationship with Lack of supervisor support (H_{015}); PsyCap will have a direct negative relationship with Lack of co-worker support (H_{016}); PsyCap will have a direct negative relationship with Lack of autonomy (H_{017}).

The following research hypotheses however failed to find support and were rejected: Exhaustion will have a direct negative relationship with PWBW (H_{02}); Emotional labour will have a direct positive relationship with Exhaustion (H_{05}); Lack of supervisor support will have a direct positive relationship with Exhaustion (H_{06}); Lack of supervisor support will have a direct positive relationship with Disengagement (H_{07}); Lack of co-worker support will have a direct positive relationship with Exhaustion (H_{08}).

Figure 4.4 presents the parameter estimates for all the hypothesised paths in the structural model that was fitted to the data. Statistically significant paths in the model are indicated with an asterisk. Although five of the hypotheses were removed, the final structural model was satisfactory in terms of it supporting the main argument of this study.

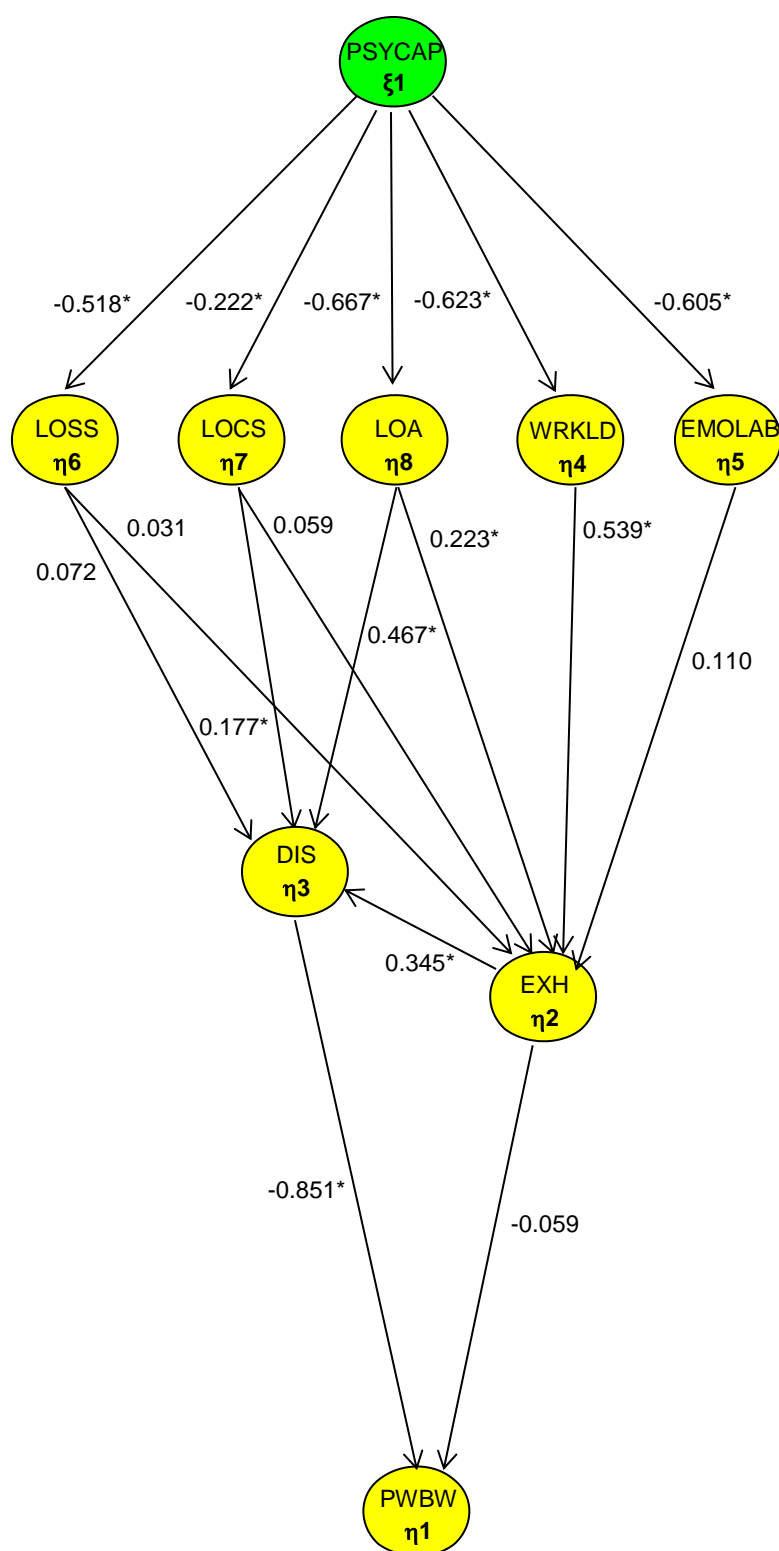


Figure 4.4. PWBW in Call Centres Structural Model

4.8 SUMMARY

The purpose of this chapter was to present all the results from the analysis techniques employed in this study and to report on the results of testing the various statistical hypotheses which culminated from the research literature study presented in chapter 3.

Chapter 5 presents a discussion of these results, the limitations found, as well as the practical implications of the research findings. Discussions also include recommendations for future research.

CHAPTER 5: DISCUSSION

5.1 INTRODUCTION

The background to this study is reviewed, followed by a discussion of the findings from the analyses conducted in chapter 4. The practical implications and limitations of the study, as well as recommendations for future research are subsequently discussed.

5.2 BACKGROUND TO THE STUDY

Call centres have been identified as important role-players in the growth of the South African economy. However, while such centres offer numerous advantages to organisations, its benefits to the individual appear to be less clear (Sprigg & Jackson, 2006). Researchers have in fact labelled call centres as a *toxic* work environment, and detrimental to the PWBW of its employees.

Indications are that the success of call centres comes at the cost of individual PWBW. This is a serious concern as call centres are a prominent place of work for many South Africans, and also a growing sector responsible for massive job creation. In light of the aforementioned, this research study finds the PWBW of call operators to be disconcerting and an issue which cannot be ignored.

Not only do organisations have a moral and ethical obligation to look after the psychological well-being of their people (Theron, 2014), but well-being is also an important component of any company's strategic objectives (Loeppke, 2008). Research studies show that people with good psychological well-being are better workers and that the absence of ill-health can save organisations a lot of money. The argument extended is that investing in the PWBW of call centre workers can be justified economically.

The study's aim was therefore to gain insight into how the call operator and the call centre work environment interact to account for variance in individual PWBW. The belief was that such an understanding will aid the development of human resource interventions to protect call operator PWBW against the threats posed by the call centre work environment.

Drawing from Positive Organisational Behaviour (POB), the present study investigated the role of an individual's resources in determining his or her PWBW. Previous research on call centres indicated that little had been done with regard to understanding the role of state-like characteristics and other positive individual resources in managing call centre demands (Lombard, 2009; Zapf et al., 2003). More specifically, the present study investigated the ability of PsyCap, as introduced in POB, to act as psychological resource strengths which individuals can draw from to influence the way they respond to stress and experience PWBW.

This study generated empirical evidence to substantiate the proposed hypotheses relating to the role of individual resource capabilities in managing call centre stressors and determining PWBW outcomes. A survey was administered to a sample size of 201 individuals who work in call centres across different companies and industries. Structural equation modelling was employed to examine the structural model developed for this purpose and to test the research hypotheses.

5.3 DISCUSSION OF RESULTS

5.3.1 THE MEASUREMENT MODEL

Item analysis was conducted on all measuring instruments to identify any problematic items to be considered for removal. Also, a CFA was performed on all instruments to test how well the measure represented the intended construct. In cases where the CFA results proved to be unsatisfactory an EFA was conducted to investigate the factorial structure and to determine the reasons for poor model fit.

The next step involved evaluating the fit of the complete measurement model in order to determine the degree to which the measures were successful in operationalising all the constructs to be included in the structural model. The model was tested with LISREL 8.8 (Jöreskog & Sörbom, 2002) via making use of structural equational modelling (SEM). The goodness of fit statistics were interpreted to determine the degree of model fit. Results indicated that the model obtained a close fit ($p > .05$) which was satisfactory. This meant that the structural model could be fitted to the data with a fair degree of confidence.

While a close fit was obtained, it must be noted that some of the model parameters were unsatisfactory. In this regard, high inter-correlations between some latent variables were found, and a few of the indicators also reported high error variance. The section pertaining to the limitations of the study will elaborate on this.

5.3.2 THE STRUCTURAL MODEL

The adjusted PWBW in Call Centres structural model (as depicted in Figure 4.1) was fitted to the data and according to the goodness of fit statistics a close fit was not obtained ($p < .05$). This is disappointing and means that the model could not explain the PWBW in Call Centres phenomenon in the population.

In light of the undesirable model fit, it must be said that it was not possible to test the original hypothesised structural model (as depicted in Figure 3.2). Part of the study's theorising included the ability of PsyCap to act as a moderator between stressors and burnout. This reasoning formed an important component of the nomological net of variables believed to explain the psychological phenomenon of PWBW in Call Centres. Unfortunately, the restrictions imposed by the sample size precluded the testing of the moderating effects and the model had to be adapted. The researcher believes that this has to some degree negatively impacted on the model fit obtained.

The fit statistics did, however, provide evidence of a reasonable model fit ($RMSEA < .08$). This means that the model can be declared as fitting the sample data reasonably well. It is therefore fair to say that the structural model warrants reasonable faith in the derived parameter estimates.

Unfortunately, investigation of the unstandardised beta and gamma matrices revealed that 5 of the 16 original paths were not supported. The paths which did not obtain support were: Exhaustion will have a direct negative relationship with PWBW (H_{02}); Emotional labour will have a direct positive relationship with Exhaustion (H_{05}); Lack of supervisor support will have a direct positive relationship with Exhaustion (H_{06}); Lack of supervisor support will have a direct positive relationship with Disengagement (H_{07}); Lack of co-worker support will have a direct positive relationship with Exhaustion (H_{08}).

Whilst the modification indices (MI) for beta and gamma did present some paths which, if freed, would improve the model fit, it was decided against freeing any paths. These paths should be considered in future studies and will be elaborated on in the section pertaining to recommendations for future research. A visual representation of the structural model in Figure 5.1¹⁸ indicates statistically significant paths with an asterisk.

¹⁸ Description of latent variables: PSYCAP = Psychological capital; PWBW = Psychological well-being at work; EXH = Exhaustion; DIS = Disengagement; WRKLD = Workload; EMOLAB = Emotional labour; LOSS = Lack of supervisor support; LOCS = Lack of co-worker support; LOA = Lack of autonomy.

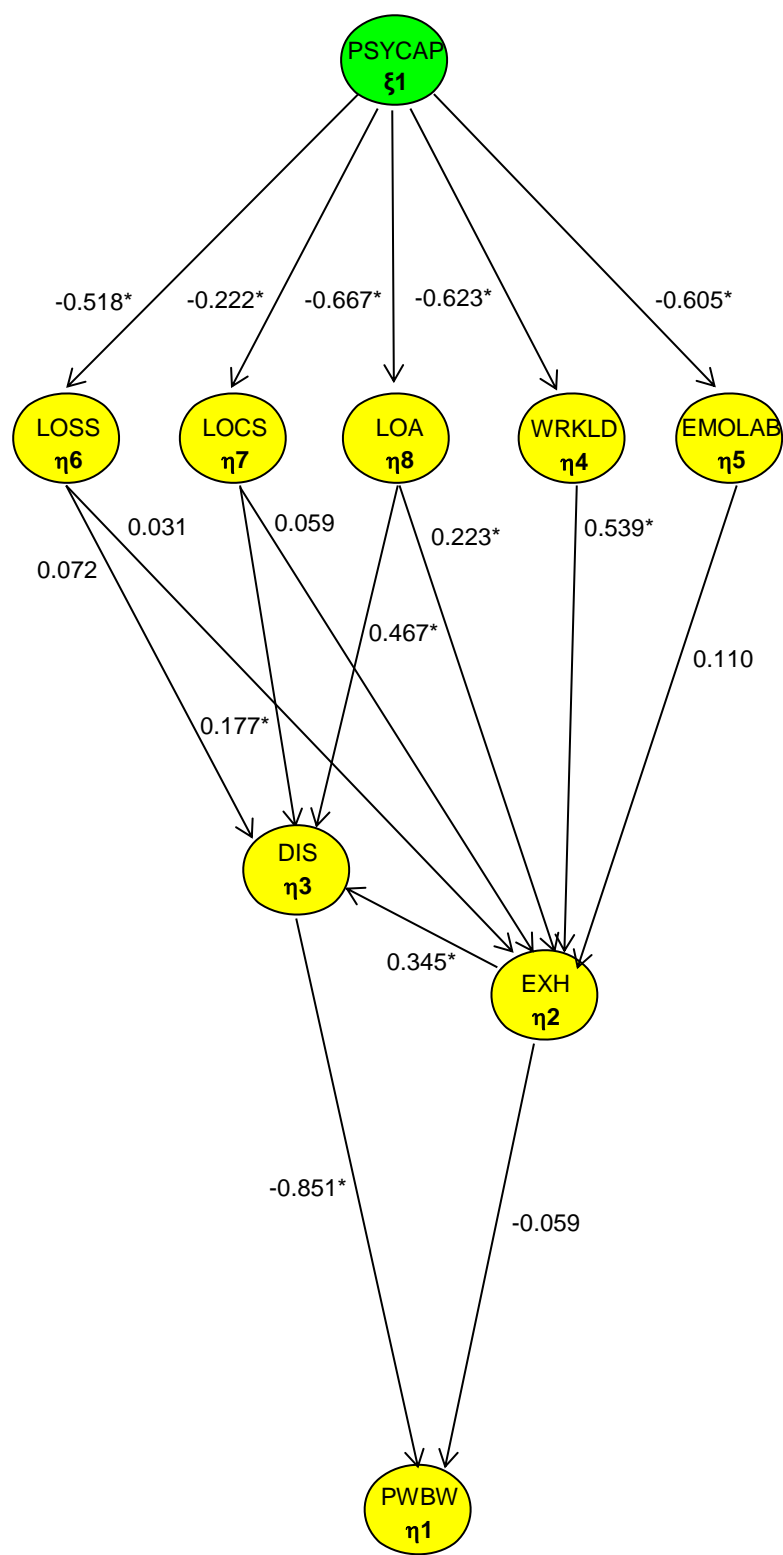


Figure 5.1. PWBW in Call Centres Structural Model

5.3.3 MAIN FINDINGS

The results of the structural model indicated that PsyCap can protect an individual's PWBW against the threat of burnout. It was hypothesised that PsyCap will be able to do so via its role in diminishing the ability of the stressors to promote Exhaustion and Disengagement, the two constructs of burnout. The results obtained supported this argument, indicating that PsyCap can reduce the potency/intensity of the call centre stressors, and subsequently the level of strain experienced. However, only the stressors of Workload, Lack of co-worker support and Lack of autonomy demonstrated a strain relationship with Exhaustion and Disengagement. The stressors of Emotional labour and Lack of supervisor support did not report such a relationship. Consequently, results indicate that PsyCap's ability to impede burnout is limited to stressor conditions of Workload, a Lack of autonomy and a Lack of co-worker support.

Regarding the relationship between burnout and PWBW, it was hypothesised that both Exhaustion and Disengagement will negatively impact on an individual's PWBW. However, support was only found for a direct negative relationship between Disengagement and PWBW. Whilst Exhaustion did not demonstrate a direct negative relationship with PWBW, its impact on PWBW was found to be mediated by Disengagement.

The final model provides useful knowledge on the fact that PsyCap is likely to reduce the intensity/strength of the call centre stressors, thereby retarding the development of burnout and protecting the individual's PWBW as a consequence. While not all of the stressors demonstrated a strain relationship with burnout, evidence support PsyCap's ability to reduce the threat of all the major stressors included in this study, in the form of Workload, Emotional demands, Lack of autonomy, Lack of supervisor support and Lack of co-worker support.

5.3.3.1 PSYCHOLOGICAL WELL-BEING AT WORK AND BURNOUT

It was hypothesised that the two dimensions of burnout, Exhaustion and Disengagement, will each have a direct negative relationship with PWBW. The present study found evidence of a relationship between Disengagement and PWBW, however, no support was found for a path between Exhaustion and PWBW. The fact that Exhaustion did not directly influence PWBW was surprising as sound theoretical arguments motivated the existence of such a relationship and created an expectation that empirical support for this path would be obtained.

A possible explanation for the results obtained can be attributed to the make-up of the PWBW construct. According to Dagenais-Desmarais and Savoie (2012), the construct of PWBW describes an individual's subjective positive experiences at work, which comprises primarily of Eudaimonic dimensions. The Eudaimonic approach to well-being is defined as the idea of striving towards excellence, based on one's own unique potential (Ryff & Singer, 1998). In this light, Eudaimonia is seen as the ultimate level of functioning and refers to a state of meaning and self-actualisation (Ryan & Deci, 2000). It is consequently evident that Eudaimonia defines well-being more in terms of living in accordance with one's true self or living in accordance with deeply held values, and prescribes less to well-being in terms of being relaxed, experiencing enjoyment and being away from problems (Waterman, 1993). As such, PWBW seems to capture ideologies which to some extent resemble the antithesis of disengaged work behaviour. This observation is corroborated by the phi values of the measurement model which found a strong negative correlation between these two constructs, suggesting that PWBW and Disengagement are almost at opposite ends of the same construct.

The argument presented above may explain the strong relationship between Disengagement and PWBW. It also sheds light on why the relationship between Exhaustion and PWBW was unsupported. The presence or absence of Exhaustion is believed to be more related to well-being experienced in terms of pleasure versus displeasure, or judgments concerning the good and bad in life. This view of well-being is referred to as the Hedonic approach and states that people primarily focus on maximising the experience of pleasure and minimising the experience of pain (Diener, 2009; Ryan & Deci, 2001). A lack of support for the relationship between Exhaustion and PWBW can therefore be attributed to PWBW's somewhat strong Eudaimonic focus.

It was also hypothesised that Exhaustion will have a direct positive relationship with Disengagement. Research literature strongly motivates grounds for the existence of such a path (e.g., Hockey, 1993, 1997). The present study found evidence in support of this hypothesis and it can therefore be said that Exhaustion's impact on PWBW is mediated by Disengagement.

5.3.3.2 STRESSORS AND BURNOUT

The job demands of Workload and Emotional labour (in the form of surface acting) were both hypothesised to have a positive relationship with Exhaustion. According to the JD-R model, job demands have the ability to initiate an energetic process which exerts strain and consequently fosters exhaustion in the long run (e.g., Bakker et al., 2003a; Lee & Ashforth,

1996; Wright & Cropanzano, 1998). It was therefore surprising to find that results only supported the existence of a positive relationship between Workload and Exhaustion. Support for the path between Emotional labour and Exhaustion was expected given the strong theoretical and empirical evidence in favour of such a relationship (e.g., Brotheridge & Grandey, 2002; Brotheridge & Lee, 2002, 2003; Totterdell & Holman, 2003). Moreover, it was stated that the effort required to meet the demands of surface acting can drain an individual's resources and result in exhaustion (Brotheridge & Lee, 2002; Demerouti et al., 2001).

The unsupported path between Emotional labour and Exhaustion in this study can be attributed to Emotional labour not explaining significant unique variance in Exhaustion which Workload does not already do (i.e., strong common variance is shared). This means that responding to items on the Workload scale may have implicitly implied a measure of Emotional labour. In support of this observation, reference is made to the low Cronbach alpha (.564) the Workload scale reported in this study. Seeing as a scale's reliability assesses its ability to consistently reflect the construct it is intended to measure, the low Cronbach alpha therefore lends itself to the possibility that the Workload scale might have captured an assessment of some aspects related to Emotional labour. Furthermore, while Workload and Emotional labour are theoretically supported as unique constructs, both are a form of job demands which suggests some degree of construct overlap. A number of studies seem to prefer including a composite variable of job demands, as opposed to including the individual job demands stressors (e.g., Bakker et al., 2003a), and this preference may be motivated by the fact that some construct overlap exists. It is therefore possible that the low validity of the Workload scale, in combination with some construct overlap between the two job demand variables, could have been responsible for rendering the relationship between Emotional labour and Exhaustion unsupported.

Lack of autonomy was hypothesised to have a relationship with Exhaustion. Empirical evidence for this path was expected as a number of studies support a relationship between a situation of low control and negative psychological outcomes such as exhaustion (e.g., Averill, 1973; Karasek, 1979; Miller, 1980). While the present study supported this relationship, the path was not strong (.229). In this regard, reference is made to a study by Bakker et al. (2003a) that found a relationship of similar strength (-.25) between the presence of job resources (inclusive of job control) and the presence of health problems in the form of Exhaustion and Repetitive Strain Injury (RSI).

The study's results also supported the hypothesised relationship between Lack of autonomy and Disengagement. This was expected as the JD-R model stated that job resources play a

motivational role, where a lack of such resources interferes with goal accomplishment, resulting in feelings of frustration and failure, ultimately leading to Disengagement (Bakker et al., 2003b; Schaufeli & Bakker, 2004). This finding is in line with other studies reporting a lack of job resources (inclusive of autonomy) to be related to a state of Disengagement (e.g., Bakker et al., 2003a; Demerouti et al., 2001; Hu et al., 2011).

It was hypothesised that a Lack of supervisor support and a Lack of co-worker support would each have positive relationships with Exhaustion and Disengagement. The present study however only found support for a weak relationship (.177) between Lack of co-worker support and Disengagement, leaving all other paths unsupported. These findings were unexpected as a lack of social support has been shown to be a predictor of Exhaustion (e.g. Lee & Ashforth, 1996; Maslach et al., 2001) and as capable of fostering a state of Disengagement via its important motivational role (Schaufeli & Bakker, 2004).

According to the results of a number of studies, it does not seem uncommon to find somewhat weak relationships between social support and the dimensions of burnout (Disengagement and Exhaustion). For example, Zellars and Perrewé (2001) found a relationship of .22 between negative emotional social support and emotional exhaustion, and of .14 between negative social support and depersonalisation, which is perceived as a form of Disengagement by Demerouti et al. (2003). In line with these results, Salami (2011) reported relationships of similar strength in favour of social support's ability to predict emotional exhaustion (.22) and depersonalisation (.27).

While evidence of stronger relationships between job resources (inclusive of social support) and a state of Disengagement can be found (e.g., Bakker et al., 2003a; Bakker, Demerouti & Verbeke, 2004), studies appear to more consistently refer to a weak relationship between social support and Exhaustion. A study by Bakker et al. (2003a) found a relationship of -.25 between job resources (inclusive of social support) and health problems (inclusive of Exhaustion). Furthermore, Viswesvaran et al. (1999) reported a relationship of -.21 for the direct effect of social support on strain. As such, the impact that a lack of social support has on the development of Exhaustion seems to be limited.

The present study did however not find any evidence for relationships between the two types of social support (co-worker and supervisor) and Exhaustion. The unsupported relationships could be attributed to the measuring instruments used to assess social support. While these instruments displayed satisfactory psychometric properties, closer inspection revealed that the items measured supervisor and co-worker willingness to provide support, but that no assessment of the availability/or access to such support was captured.

A definition of social support provided by Viswesvaran et al. (1999) specifically refers to *availability*. This is important as call centres was described as an environment which hampers an individual's chances of having access to social support. Call centre work was referred to as an individual exercise where technology severely reduces the opportunity for co-peer support and for supervisors to intervene and provide support (Amick & Celentano, 1991; Sprigg & Jackson, 2006; Van Jaarsveld & Poster, 2013). Therefore, it is fair to say that individuals lack social support in a work environment where supervisors and co-workers are willing to provide such support, but the environment restricts the individual from receiving it.

As an example, the availability of social support could have been measured by including a question such as "How regularly do you have the opportunity to discuss your problems with co-workers?" It is therefore believed that theory which supports forms of social support to have a relationship with the burnout constructs of Exhaustion and Disengagement requires the availability of social support to also be taken into consideration when empirically testing these relationships. As such, the lack of support for the mentioned relationships could be attributed to the operationalisation of the Supervisor support and Co-worker support constructs.

It is unexpected that not all the hypothesised paths between the two forms of social support and the two constructs of burnout found support. Results currently suggest that a Lack of supervisor support in no way leads to a state of Disengagement and that neither a Lack of supervisor support nor a Lack of co-worker support will promote Exhaustion. There is however empirical and theoretical evidence which supports the existence of such relationships outside of this study.

5.3.3.3 PSYCAP AND STRESSORS

It was hypothesised that PsyCap will have a direct negative relationship with the stressors of Workload, Emotional labour, Lack of autonomy, Lack of supervisor support and Lack of co-worker support. Strong theoretical arguments were made in favour of these relationships and it was therefore satisfying that the present study found empirical evidence in support of all the specified PsyCap-Stressor paths.

More specifically, the findings indicate that call operators with significant levels of PsyCap will perceive the call centre stressors as less threatening. These findings are in line with a number of other research studies who have supported the idea that PsyCap may act as a protective buffer against stress and burnout (e.g., Avey et al., 2009a; Avey et al., 2009b; Fredrickson et al., 2003).

Findings can be explained by the COR theory and the role of an individual's beliefs or cognitions. The COR theory states that people use resources to cope, adapt and thrive (Hobfoll, 2002). In addition to the idea of resources, there is also a school of thought that stresses the importance of an individual's beliefs or cognitions in determining psychological well-being (O'Brien & Major, 2005). PsyCap combines these two approaches, as according to its definition, PsyCap is *resources* that are also *cognitive* in nature. It is consequently, stated that PsyCap serves as a *reservoir of cognitive resources* from which call operators can draw to influence their perceptions regarding the threat that certain stressors pose (Avey et al., 2010). PsyCap resources have been described as empowering people to appraise situations in a more positive, adaptive and opportunistic manner. The direct causal relationships between PsyCap and the individual stressors are supported by Folkman and Lazarus's (1985) *cognitive appraisal* of stress. In line with this theory, PsyCap resources can reduce the potency/strength of a stressor by way of influencing the individual's cognitive appraisal of the stressor situation, or stated differently, how they feel about it.

5.3.3.4 STRUCTURAL MODEL OF PWBW IN CALL CENTRES

This study attempted to explain why variance exists in the psychological well-being of call operators, or more specifically, why some call operators can cope and thrive in this environment whilst others experience less well-being. A nomological net representing the underlying psychological processes at play was therefore proposed and investigated in order to explicate the complexity which underlies the phenomenon of variance in call operator PWBW.

A positive psychology approach was adopted and more specifically the individual's psychological well-being in the workplace (PWBW) was investigated. Burnout was identified as a major threat to psychological well-being in call centres as it is commonly embedded within the make-up of typical call centre work. Set within the Positive Organisational Behaviour (POB) paradigm, it was believed that PsyCap plays a role in protecting an individual's PWBW in call centres.

A number of inferences can be made based on the findings of the present study. A first inference is that a reasonable model fit was obtained. This suggests that the structural model provides some explanation of the underlying psychological processes responsible for variance in call operator PWBW. It does not, however, preclude the existence of other variables that may assist in understanding the intricacies that underlie the process accountable for variance in call operator PWBW.

Importantly, due to the model not obtaining a close fit ($p=.000$; $p<.05$), the results can only be seen as representative of the sample and unfortunately cannot be generalised to the population.

The second inference is that PsyCap has the ability to reduce the potency/strength of prominent call centre stressors in the form of Workload, Emotional labour, Lack of social support (from supervisors and co-workers) and Lack of autonomy. More specifically, the supported PsyCap-Stressors paths suggest that call operators with significant levels of PsyCap will appraise:

- Their Workload as less demanding and more manageable;
- The amount of Emotional labour in their work as less demanding and more manageable;
- The Lack of supervisor and co-worker support in their work environment as less threatening or problematic; and
- The Lack of autonomy as less threatening or less of an obstacle.

Much emphasis has been placed on the importance of resources for people to adapt, cope, and thrive. The COR theory explained that people seek to “obtain, retain, and protect resources and that stress occurs when resources are threatened with loss or are lost, or when individuals fail to gain resources after substantive resource investment” (Hobfoll, 2002, p. 312). The principles of the COR theory can be identified when observing the Individual-Stressor interaction. For example, while job demands are not necessarily negative, such demands are likely to turn into stressors when meeting those demands exceeds the individual’s available resources (Bakker et al., 2003a; Schaufeli & Bakker, 2004). The lack of job resources also creates stress, as in its absence, the individual does not possess of that specific resource required to cope with the challenges that the environment demands. Consequently, the central role of resources in the experience of stress appears to be undeniable.

Consequently, individuals’ availability of resources will influence their appraisal of a particular stressor situation. For example, having a large resource pool can lead individuals to perceive their workload as realistic and manageable. Similarly, a situation of low autonomy is likely to be perceived as less threatening if the individual has other and adequate resources to adapt, cope and thrive under the conditions of low control.

The present study finds evidence to support the notion that call operators are able to draw from their PsyCap resources to promote positive cognitive beliefs which play a critical role in

how a stressor is appraised, and explains how PsyCap is able to reduce the potency/strength of the call centre stressors included in this study.

In the beginning of this study it was noted that little research has focused on investigating the role of state-like characteristics and positive resources in managing demands in call centres. This study has responded to the aforementioned lack of understanding by providing evidence of the importance of PsyCap resources in managing call centre stressors. These results corroborate the COR theory's stance on the importance of resources in maintaining PWBW, and also supports the role of an individual's beliefs or cognitions in the assessment of PWBW.

A third inference is that job demands in the form of Workload leads to Exhaustion and that a lack of job resources in the form of Lack of autonomy and Lack of co-worker support leads to Disengagement. This observation supports the JD-R model (Bakker & Demerouti, 2007) which explains that job demands initiate an energetic process which exerts strain resulting in possible Exhaustion, and that job resources play a motivational role where the absence of such resources can foster Disengagement. Possible reasons for a lack of support for Emotional labour to promote Exhaustion and a Lack of supervisor support to foster Disengagement have been discussed.

Given the arguments above, it is observed that the causal effect of Workload on Exhaustion is conditional on PsyCap. Similarly, the casual effect of Lack of autonomy and Lack of co-worker support on Disengagement is conditional on PsyCap. Furthermore, the supported path between Exhaustion and Disengagement suggests that Workload has an influence on Disengagement, as mediated by Exhaustion.

Fourth, while research supported the ability of a lack of job resources to contribute to a state of Exhaustion this was found to be true only in the case of Lack of autonomy's relationship with Exhaustion. This was however not a very strong relationship. While other studies support both autonomy and social support to have a relationship with Exhaustion, it appears that the tendency is for the relationship between job resources and Exhaustion to be somewhat weak (e.g., Bakker et al., 2003a; Hu et al., 2011; Lee & Ashforth, 1996; Salami, 2011; Zellars & Perrewé, 2001). This suggests that whilst the absence of job resources, such as autonomy, can contribute to the experience of Exhaustion, the impact of job demands on Exhaustion is superior.

In line with discussions above, it is observed that the causal effect of Lack of autonomy on Exhaustion is conditional on PsyCap. An additional observation is that the availability of job resources, such as autonomy, appears to provide very little relief to Exhaustion. This

accentuates the importance of PsyCap, as through reducing the potency/strength of job demands such as Workload, it can make a more significant impact on reducing the experience of Exhaustion.

Fifth, only the Disengagement dimension of burnout influences the PWBW of call centre workers. It seems that Exhaustion does not directly affect PWBW, but that its influence is rather mediated through Disengagement. The relationship between Exhaustion and Disengagement confirms Hockey's (1993, 1997) theory which explains that when individuals are exhausted they will withdraw from work in order to protect themselves from further resource or energy loss.

The study's last and arguably most important inference is in reaction to answering the research initiating question. The research initiating question asked why variance in the PWBW of call operators exists, more specifically why some people thrive in call centres while others struggle to cope under these conditions. The present study finds some evidence to suggest that PsyCap plays an active role in determining the observed variance in call operator PWBW. From all the inferences made above it is evident that PsyCap, through its ability to reduce the potency/strength of the stressors of Workload, Lack of autonomy and Lack of co-worker support, can retard the development of burnout (in the form of Exhaustion and Disengagement) and consequently, protect the call operator's PWBW.

An additional observation is that even if a stressor does not have a relationship with burnout it still has the capacity to negatively influence an individual's health and well-being, for example via promoting depression etc. Consequently, the fact that PsyCap has been found to reduce the potency/strength of all prominent call centre stressors included in the study suggests that it has the ability to protect an individual's health and well-being against other stressor/strain induced threats beyond that of burnout. This is an avenue that future research could explore.

5.4 LIMITATIONS OF THE STUDY

The following are noted as limitations that must be considered when interpreting findings.

First, convenience sampling was employed which provided little control over the representativeness of the sample. The sample used was drawn mainly from call centres in the Western Cape with some representation from the Pretoria region. Moreover, the sample did not accurately reflect the general demographics of South Africa. It is specifically worth noting that male representation was very small. Consequently, the sample characteristics

limit the generalisability of the study's results. Also to be noted is that the sample collected did not focus on a particular call centre function such as inbound or outbound calls, or performing accounts or customer service type work. Future research could replicate the present study to investigate the generalisability of results to other and more specific call centre operator samples. Another aspect was that length of service was not controlled for. Given that burnout is a phenomenon that happens over time, future studies could consider including length of service as part of the sample criteria.

A second limitation of this study is the relatively small sample size. Results can be interpreted with a greater degree of confidence in studies with larger sample sizes (Steyn, 2011).

Thirdly, restrictions enforced by the small sample size precluded the inclusion and testing of the moderating effects of PsyCap on the different stressors. Testing the moderating effects was important as it represented PsyCap's involvement in helping call centre workers to better deal with stressors via the process of *coping*. As in line with Folkman and Lazarus's (1985) theory, the study hypothesised that PsyCap would not only enable individuals to perceive (*cognitive appraisal process*) stressors as less threatening, but that PsyCap could also enable people to better deal (*coping process*) with the strain exerted by such stressors. As only the *appraisal process* could be included and tested, the present study was left short of assessing the overall theorised impact of PsyCap on the management of call centre stressors. Future research should ensure a large enough sample size to commit to investigating the moderating effects.

Fourthly, the presence of common method bias is perceived as a possible limitation. Bass and Bass (2008, p.74) defined this as "the overlap between two variables due to a common bias rather than to a relationship between the underlying constructs." This means that a relationship between two constructs is observed only because the same source (i.e. respondent) measured both constructs. It is suggested by Krause (2006) that common method bias can be controlled by making use of different sources (groups of people) when collecting information. While this study relied solely on self-report measures, future studies could try to include data from different sources to negate the effect of common method bias.

A fifth limitation is related to the original factor structure of the OLBI measuring instrument. While the instrument's original two factor structure was retained, the final measure used included two items which, according to EFA results, better loaded onto the factor it was not originally designed to measure¹⁹. Furthermore, a number of underperforming items were

¹⁹ The necessary theoretical support was found for the inclusion of these items.

deleted from this instrument which reduced the measure from 16 items to include only 8 items. As such, issues like the possibility of construct under-representation, as well as the comparability of results to subsequent cannot be ignored. It is also important to take note of the unstandardised nature of the measure's translation in English, as checked by an American native speaker. These results influenced the validity of the OLBI to a certain extent.

The psychometric robustness of the Workload scale is a sixth limitation of the present study. The measuring instrument achieved a reliability coefficient of .56, which according to recommended standards, is poor. It also appeared that the low Cronbach alpha resulted in the Workload measure explaining some of the variance that would otherwise have been unique to the Emotional labour measure.

A possible seventh limitation of the study is the operationalisation of co-worker support and supervisor support. The researcher is of the opinion that while these measures captured the willingness of such individuals to provide support, it did not capture how readily *available* such support is to the call operator. This was flagged as important because call centre work commonly restricts/complicates an individual's ability to have access to social support. Future studies should employ measures of social support which take into consideration both the willingness of important role-players to provide social support, as well as the ability of a call operator to have regular access to such support. Additionally, as mentioned earlier, the words "and easy to approach" were removed from the first item on both social support scales to avoid ambiguity in the respondent's interpretation of the item's meaning. Also, on the co-worker support scale, the words "work group" were changed to "team" in order to avoid confusion.

Eighth, the high error variance (theta-delta) reported by the indicators of WRKL1, WRKLD3, EMOLAB1, AUT1, SE, RES and IFAW should be taken into consideration when analysing the study's results. The high error variance does not reflect favourably on the ability of these indicators to provide a strong empirical grasp on the intended latent variables.

Ninth, this research study created item parcels to serve as indicator variables for the purpose of assessing the measurement and structural models. More specifically, item parcels were created for the latent variables of PsyCap, Exhaustion, Disengagement and PWBW. The possible limitations associated with the use of item parcelling should be considered when analysing the study's results.

A tenth limitation refers to the fairly high correlations observed between PSYCAP and PWBW (0.868), PSYCAP and DIS (-0.830), and PWBW and DIS (-0.889). This can be

problematic as it suggests that these constructs share large common variance and consequently, run the risk of being rendered as clones of each other. While correlations in excess of .90 are considered problematic and indicative of multicollinearity, it is still imperative that the implications of the mentioned inter-correlations be taken into consideration as it is suggestive of possible model misspecification.

Lastly, the scales used to measure all stressors included in the study (Workload, Emotional labour, Lack of autonomy, Lack of supervisor support and Lack of co-worker support) were very short and consistent of only three items each. While short scales were chosen on purpose to better control the length of the battery of tests in its entirety, the possible shortcomings as a result of using such short tests should also be considered when interpreting the results of the present study.

5.5 PRACTICAL IMPLICATIONS

The present study supports PsyCap's ability to act as psychological strength resources which empowers call operators to perceive the stressors of Workload, Emotional labour, Lack of autonomy and Lack of social support from supervisors and co-workers, as less threatening. More specifically, empirical evidence suggests that PsyCap retards the development of burnout under the stressful conditions of Workload, Lack of autonomy and Lack of co-worker support. While nobody is ever completely free from the risk of burnout, the present study's results suggest that individuals with high PsyCap are likely to take longer to develop burnout, or may experience a milder version of it. The evidence of the present research study therefore suggests that PsyCap can protect a call operator's PWBW from the threat of burnout via its ability to reduce the potency/strength of the mentioned stressors.

These findings are significant for call centres as the cost of burnout and poor psychological well-being has been discussed as including lower morale, increased staff turnover, absenteeism, presenteeism, increased training and recruitment costs, and reduced productivity and efficiency. Additionally, it has been discussed that people with good psychological well-being are more productive and exhibit desirable organisational attitudes such as organisational commitment and employee engagement.

This study's research aim was to develop a model that explains variance in call operator PWBW so that such an understanding can be utilised to identify human resource interventions which can help to protect the PWBW of call centre workers. According to this study's results, human resource interventions should focus on developing PsyCap as positive psychological resources. Research has stated that PsyCap is a state-like construct

that can be developed by short training sessions or through electronic learning initiatives (Luthans et al., 2006; Luthans et al., 2007c). Call centres can therefore, through the development of PsyCap, empower their telephone handlers with the psychological strengths required to protect their PWBW, and to better cope with the major call centre stressors included in this study.

Moreover, selection and recruitment of call operators can also include PsyCap profiles as part of the assessment battery to ensure sustainability in the call centre environment.

Ultimately, human resources are critical to achieve sustainable competitive advantage in the present global economy. Call operator PWBW should therefore be looked after as it can directly influence the effectiveness of a call centre. The importance of protecting call operator PWBW is further stressed as such centres play an important role in the South African economy and is also a prominent place of work for many South Africans. It is therefore believed that it is timely for call centres to transform and to move towards positively orientated strength-based management, which embraces the development of PsyCap in their call operators (Luthans & Youssef, 2004).

The present study provides empirical evidence that, through focusing on the development of PsyCap, call operators are empowered to better adapt, cope and thrive under the challenging working conditions of a call centre.

5.6 RECOMMENDATIONS FOR FUTURE RESEARCH

From the discussions above it is evident that a need exists for continued efforts to improve research in order to support the present study's arguments.

It is recommended that future research should pursue investigating PsyCap's ability to moderate the relationship between call centre stressors and burnout. It was argued that PsyCap can help call operators deal with stressors via its involvement in the processes of *cognitive appraisal* and *coping*. Folkman and Lazarus (1985) mentioned that both these processes play an important role in the individual-stressor interaction. Since the moderating relationships were precluded in the present study, this should be considered for PsyCap's full involvement in helping call operators to better deal with stressors. The moderating effects are theorised to form a critical part of PsyCap's ability to protect call operator PWBW and should not remain unexplored.

Future research could consider expanding the model to include an investigation of the relationship between job demands and Disengagement. The modification indices for the

structural model pointed out that a case can be made for both Workload and Emotional labour to have a relationship with Disengagement. While most research based on the theory of the JD-R model does not consider such relationships, some studies (e.g., Hu et al., 2011) support the possibility of such a relationship. As such, exploring the ability of job demands to directly foster a state of Disengagement could make a significant contribution to the understanding of the nomological network of variables responsible for variance in call operator PWBW.

Future research could also consider grouping Workload and Emotional labour, including it under one variable labelled *Job demands*. Similarly, Lack of autonomy and Lack of support from co-workers and supervisor could also be grouped and included under a variable labelled *Lack of job resources*. This will help to simplify the model and guard against creating a highly complex model with a large number of parameters to be estimated. Adopting such an approach should be especially useful where the moderating effects between PsyCap and stressors need to be tested, as it can help reduce the sample size required to lend credibility to the results. It also appears to be common practice for researchers who have adopted the JD-R model's theory to include the stressors under these two composite variables.

In an effort to refine the present study's results, future research should consider the use of different measures for Workload, Social support and burnout. The Workload scale obtained a low reliability coefficient, and as such created some problems where the researcher believed the scale to also measure some variance unique to Emotional labour. A more reliable scale would ensure that the instrument explains variance unique to the construct it was intended to measure. Furthermore, the measure of social support in the call centre environment needs to capture the frequency with which an individual has access to such support. Lastly, establishing the underlying factor structure of the OLBI burnout measure provided some complications and whilst this may be due to the sample used, an alternative measure in the form of Maslach's Burnout Inventory could be considered.

In retrospect, given the complexity of the model and the sample size, simpler statistical techniques, like moderated regression analyses, could have been used to investigate the full range of hypotheses.

Lastly, future research should carefully consider whether all of the variables of PWBW, PSYCAP and DIS, as currently operationalised, justify its inclusion in the model as unique constructs. While these variables can be justified as theoretically distinct concepts, they have been shown to share large common variance (see Table 4.7), which is suggestive of possible model misspecification. This is an important recommendation as variables with high

correlations may suggest that some of the constructs in the model are irrelevant and only a clone or copy of the other.

5.7 CONCLUSION

The aim of this study was to depict the nomological network of latent variables that explain variance in call operator PWBW. While the present study is not void of limitations, it provides explorative insight into the psychological processes underpinning the phenomenon of call operator PWBW.

The JD-R model (Bakker & Demerouti, 2007; Demerouti et al., 2001) was used as a framework to explain how burnout (in the form of Exhaustion and Disengagement) is the result of two categories of call centre stressors. Disengagement and Exhaustion in turn was discussed as threatening to the PWBW of call operators. The COR theory (Hobfoll, 1989), together with Fredrickson's (2001, 2003) Broaden-and-Build theory, was used to motivate the importance of resources for people to adapt, cope and thrive in response to stressors. PsyCap as part of the Positive Organisational Behaviour (POB) paradigm was introduced as psychological strength resources which can help call operators to better cope with call centre stressors and consequently, protect their PWBW from the threat of burnout. Results supported PsyCap to reduce the potency/intensity of all the call centre stressors included in the study, however only some of the stressors reported a relationship with burnout. The final structural model indicated that PsyCap can be expected to retard the development of Exhaustion and Disengagement via its ability to diminish the potency of the Workload, Lack of autonomy and Lack of co-worker support stressors, thereby reducing the threat that burnout poses to call operator PWBW.

Call centres should embrace the importance of adopting a strengths-based approach to managing human resources and focus on developing the PsyCap of their call operators in order to preserve good psychological well-being and to unlock competitive advantage.

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APPENDICES

APPENDIX A: INFORMED CONSENT ATTACHED TO PENCIL-AND-PAPER BASED SURVEY



UNIVERSITEIT•STELLENBOSCH•UNIVERSITY
jou kennisvennoot • your knowledge partner

STELLENBOSCH UNIVERSITY CONSENT TO PARTICIPATE IN RESEARCH

Title Of The Research Project: **The role of psychological capital in protecting the psychological well-being of individuals working in call centres.**

You are asked to participate in a research study conducted by Nicolaas van Wyk (master's student, MComm) and Dr Wim Myburgh, from the Department of Industrial Psychology, Stellenbosch University. The results of this study will contribute to the thesis of Nicolaas van Wyk. You were selected as a possible participant in this study as you are an employee working in a call centre.

1. PURPOSE OF THE STUDY

The objective of this study is to investigate what causes variance in the psychological well-being of people working in call centres. The study asks why some enjoy working in this environment whilst others find it challenging and demanding. The aim is therefore to explore the interaction between the individual and the environment in search of a plausible explanation that could aid the discipline of Industrial Psychology to develop interventions targeted at protecting the psychological well-being of people working in call centres.

2. PROCEDURES

As a volunteer to participate in this study, we will ask you to complete a short pencil-and-paper based questionnaire that would take \pm 20 minutes to complete. There are no right or

wrong answers. We will come to your place of work, and provide you with the questionnaire. Permission for your involvement in the process has been granted by management and your participation will therefore have no negative bearing on normal work activities. Management totally supports your participation in this process.

3. POTENTIAL RISKS AND DISCOMFORTS

This is a relatively risk-free study. The only potential risks or discomforts that could result from participating in this study include the work time lost due to participation and the discomfort participants may experience when having to evaluate themselves. For example, you may experience some discomfort when having to reflect on your levels of well-being or the nature of your work relationship if it is not what you wished it to be. If you find completing the survey emotionally strenuous, you are advised to discontinue participation immediately.

Participants are welcome to contact the researcher should they feel the need to talk to a counsellor as a result of being subjected to the survey. The researcher will refer the candidate to a suitable person for professional help. However, any costs charged by such professionals will not be the responsibility of the researchers.

4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

There exist no direct short-term benefits for the individual participating. However, the data will contribute towards building an understanding of what determines psychological well-being in call centres. This will assist in the development of interventions aimed at protecting the psychological well-being of people working in call centres. In this manner, the research will be very valuable for people working in call centres, the call centre industry itself, and society as a whole.

5. PAYMENT FOR PARTICIPATION

Neither you, nor your company will receive any remuneration for participating in the research study.

6. CONFIDENTIALITY

The survey will not require you to reveal your identity. You will only be required to tick a box which indicates that you give informed consent of your voluntary participation. The

questionnaire itself will link your response data to a unique identification number that is in no way associated with you. This means that it will not be possible to trace response data to an individual. Any information that is obtained in connection with this study and that can be identified with you in any way will remain confidential and will be disclosed only with your permission or as required by law. Confidentiality will be maintained by means of storing the data on a secure and password-protected computer, and by only reporting on aggregate statistics of the sample group. A summary of the findings may be presented to your company's management team, however, at no time during this process shall the identity of an individual be revealed, or shall it be possible to trace results to a single person. If results were to be published, the same strict rules of confidentiality will apply.

7. PARTICIPATION AND WITHDRAWAL

You can choose whether to participate in this study or not. If you volunteer to do so, you may withdraw at any time (before, during or after the study) without consequences of any kind. Whilst we cannot force you to answer any question that you do not want to, the researcher would kindly like to request participants to answer all the questions. Leaving out questions may complicate the study and your cooperation in this regard will be sincerely appreciated. If you do not want to answer a question you can still remain in the study. Furthermore, the researcher may withdraw your data from this research if circumstances arise which warrant doing so.

8. IDENTIFICATION OF INVESTIGATORS

If you have any question or concerns about this research study, please feel free to contact Nicolaas van Wyk (082 762 3018 / nicolaasvwyk11@gmail.com) or Dr Wim Myburgh (021 462 4883 / wim@psymetric.co.za).

9. RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research participant, contact Ms Maléne Fouché (mfouche@sun.ac.za / 021 808 4622) at the Division for Research Development at Stellenbosch University.

10. SIGNATURE OF RESEARCH SUBJECT

Please tick the appropriate box:

I hereby consent to voluntarily participate in this study. I agree that my data may be integrated into a summary of the results of all the questionnaires without identifying me personally.

☐

I don't want to participate in this study.

☐

APPENDIX B: INFORMED CONSENT ATTACHED TO ONLINE SURVEY

UNIVERSITEIT•STELLENBOSCH•UNIVERSITY
jou kennisvennoot • your knowledge partner

**STELLENBOSCH UNIVERSITY
CONSENT TO PARTICIPATE IN RESEARCH**

Title Of The Research Project: **The role of psychological capital in protecting the psychological well-being of individuals working in call centres.**

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1. PURPOSE OF THE STUDY

The objective of this study is to investigate what causes variance in the psychological well-being of people working in call centres. The study asks why some enjoy working in this environment whilst others find it challenging and demanding. The aim is therefore to explore the interaction between the individual and the environment in search of a plausible explanation that could aid the discipline of Industrial Psychology to develop interventions targeted at protecting the psychological well-being of people working in call centres.

2. PROCEDURES

As a volunteer to participate in this study, we will ask you to complete a short online questionnaire that would take \pm 20 minutes to complete. There are no right or wrong answers. This will take place at the premises of your organisation, during business hours, and you will complete the survey on your work computer. We will provide you with a secure link that will take you to the online survey. Permission for your involvement in the process

has been granted by management and your participation will therefore have no negative bearing on normal work activities. Management totally supports your participation in this process.

3. POTENTIAL RISKS AND DISCOMFORTS

This is a relatively risk-free study. The only potential risks or discomforts that could result from participating in this study include the work time lost due to participation and the discomfort participants may experience when having to evaluate themselves. For example, you may experience some discomfort when having to reflect on your levels of well-being or the nature of your work relationship if it is not what you wished it to be. If you find completing the survey emotionally strenuous, you are advised to discontinue participation immediately.

Participants are welcome to contact the researcher should they feel the need to talk to a counsellor as a result of being subjected to the survey. The researcher will refer the candidate to a suitable person for professional help. However, any costs charged by such professionals will not be the responsibility of the researchers.

4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

There exist no direct short-term benefits for the individual participating. However, the data will contribute towards building an understanding of what determines psychological well-being in call centres. This will assist in the development of interventions aimed at protecting the psychological well-being of people working in call centres. In this manner, the research will be very valuable for people working in call centres, the call centre industry itself, and society as a whole.

5. PAYMENT FOR PARTICIPATION

Neither you, nor your company will receive any remuneration for participating in the research study.

6. CONFIDENTIALITY

The survey will not require you to reveal your identity. You will only be required to tick a box which indicates that you give informed consent of your voluntary participation. The questionnaire itself will link your response data to an unique identification number that is in

no way associated with you. This means that it will not be possible to trace response data to an individual. Any information that is obtained in connection with this study and that can be identified with you in any way will remain confidential and will be disclosed only with your permission or as required by law. Confidentiality will be maintained by means of storing the data on a secure and password-protected computer, and by only reporting on aggregate statistics of the sample group. A summary of the findings may be presented to your company's management team, however, at no time during this process shall the identity of an individual be revealed, or shall it be possible to trace results to a single person. If results were to be published, the same strict rules of confidentiality will apply.

7. PARTICIPATION AND WITHDRAWAL

You can choose whether to participate in this study or not. If you volunteer to do so, you may withdraw at any time (before, during or after the study) without consequences of any kind. Due to the online nature of the survey you will not be able to leave out any questions. In other words all questions on a page will have to be answered before the computer will allow you to move on to the next page. This requirement is only to help the researcher to minimise missing data. If you do not feel comfortable with this requirement you are welcome to withdraw from the study. Furthermore, the researcher may withdraw your data from this research if circumstances arise which warrant doing so.

8. IDENTIFICATION OF INVESTIGATORS

If you have any question or concerns about this research study, please feel free to contact Nicolaas van Wyk (082 762 3018 / nicolaasvwyk11@gmail.com) or Dr Wim Myburgh (021 462 4883 / wim@psymetric.co.za).

9. RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research participant, contact Ms Maléne Fouché (mfouche@sun.ac.za / 021 808 4622) at the Division for Research Development at Stellenbosch University.

10. SIGNATURE OF RESEARCH SUBJECT

Please tick the appropriate box:

I hereby consent to voluntarily participate in this study. I agree that my data may be integrated into a summary of the results of all the questionnaires without identifying me personally.

☐

I don't want to participate in this study.

☐